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ROWING NOTES



THE AUTHOR

[Frontispiece

ROWING NOTES

BY

STEVE FAIRBAIRN

OF THE CAMBRIDGE UNIVERSITY BOAT CLUB

EDITED BY

ARTHUR EGGAR

OF FIRST TRINITY

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INTRODUCTORY NOTE BY THE EDITOR

ROWING men will doubtless be glad to see a written exposition of Steve Fairbairn's method of coaching crews. Those who know its merits will welcome a text-book describing the inner working of the system with a closer view of the details than the coach would ordinarily find occasion for giving in practice ; and those who prefer the English "orthodox" style of rowing may, nevertheless, welcome an opportunity for examining the apparently heretical doctrine, and ascertaining how far they can agree with it and for what reasons, precisely, they disagree.

The services of an editor were called for because the circumstances were like those where an inventor finds difficulty in recording his ideas in print, and hesitates before nailing his colours to the mast in a form of words which is not entirely satisfactory ; he cannot give explanations to the satisfaction of everyone, because his ideas are mostly intuitive and have not been arrived at by a series of logical steps which he can retrace and point out for the benefit of others. The editor can help him there by showing what

steps of thought the ordinary reader would follow. But one must leave it to the author to describe the picture which is in his mind, in his own words ; as often as not, those words will not be entirely successful in conveying the idea to another person, because there is a great deal to be written between the lines which the author thinks to be implied. But for an editor to write words into the author's phrases would be so far altering the characteristic language as to make the writing seem to be that of another person ; moreover, it is the author's main object to make everyone think for himself.

The phrases which a coach uses often seem to be fallacies, because they apparently advocate something which is different from the result of his coaching, as shown by his crews. They are merely reminders of complicated details which cannot be repeated in one breath ; they are understood by crews who know those details ; and they are apt to be misunderstood by those who stand and look on. Moreover, the phrase usually contains an exaggeration of some notion which is applied to counteract an opposite notion which the coach seeks to eradicate, and the apparent fallacy of the exaggeration is not shown in the result when the crew arrive at the mean between the two notions. And much of the divergence of views which one sees in the controversy on styles of rowing may be classed as a misunderstanding of the real nature of the expressions used by the coach and the error of attempting to take the words literally

—as, indeed, is the case when the phrases are repeated by others as parrot-cries.

I take this opportunity to point out the difficulty which I have met with in finding a place, amongst my own preconceived notions, for some of the ideas which have been fashioned by the author's own genius. For I must admit that I have often found difficulty in accepting his views at first, but later on it has appeared that the trouble arose from the same view in my mind being clothed in a different set of words, depicting the idea in a different way.

For example, the Fairbairn style has been criticised as "kicking the slide away and rowing on a fixed seat"; and readers may almost think they find corroboration for this criticism when meeting with the author's description of the beginning as "hitting the water with a running slide," unless they note that the underlying principle of the author's coaching is to rely upon letting the novice grow out of his errors naturally, by concentrating his mind on getting his work properly applied to the water and testing the result by blade-form. And if one compares this view with the doctrine of orthodoxy which insists upon (if I may say so) an artificially developed shoulder-catch to ensure that the power gets hold of the water before the water runs away, one may see that each is aiming at the same result, but by different methods and by the use of a different set of words, and guards against failure.

So also, when the author talks of getting the

body stretched to "hit" the water at the beginning, we may recognise the principle as almost the same as in giving the body an initial momentum in the orthodox style; and the picture of the stroke that both parties have in mind is that, having "caught the beginning" as sharply as with a "hit," the oarsman hangs his weight back from the oar as though he were "using his weight" on the rope in a tug-of-war.

Standing behind the coach in the bows of a launch following two "Thames" eights paddling from Putney to Richmond, the first impression I had was of the "faults" of the style regarded from my own point of view. The next impression was of the marvellous ease of the style which enabled men from London offices to paddle eight miles in one stretch; this was coupled with amazement at the amount of water they were covering at a lively stroke, and the way they gave the go-by to everything afloat. One might think they looked ugly, but they were surprisingly efficient.

When the coach turned to me and said, "Well, what do you think of it?" I had to hark back to my first impression to find something, and said, "There is a lot that I would say to the stroke of the second boat." But he replied, "Do you know what I would say?" "No." "I'd say nothing." And I realised how much had been left unsaid but implied by the seemingly inadequate advice which he had imparted to the crews generally: "Take it quite easily"; "Just lean back against the rowing-pins";

“Sit back till the cows come home” ; and “Simply float out forward behind the oar-handles.” The knowledge of blade-form, the keenness to work, and the exhilaration derived from the combined action were sufficient to get the power applied, naturally ; and all that was needed was a reminder framed so as to counteract any tendency to hurry and destroy the rhythm.

ARTHUR EGGAR.

1925.

PREFACE BY THE AUTHOR

I HAVE had very many complimentary letters from different rowing authorities at different times, and will quote from a few of them.

During the Boer War I got a letter saying : " You will be sorry to hear Ducker McLean is dead. He used to say to me, we did not understand rowing till Steve Fairbairn came over and taught us."

McLean, with whom I had many talks on rowing, rowed five times for Oxford when I was at Cambridge, and saw the successes of Cambridge crews at Henley in '86 and '87. I do not claim to have come to England and taught the English rowing, but finding that the Jesus men were rowing differently from the other Colleges, I carried on their ideas of leg-work and blade-work, and McLean heard them for the first time, from me. McLean probably instilled leg-work into W. A. L. Fletcher and Guy Nickalls, who carried on coaching with a leg-work foundation.

I got a note from Reggie McKenna, recently, saying : " I hear you are writing notes on Rowing. If they are as good as your coaching on the towpath was, they will be a great success, as you talked more sense than anyone."

McKenna and Bristowe were mainly responsible for Trinity Hall's successes at Henley and Cambridge in '86 and '87. I coached the Hall in '86, before the May Races, and laid the foundation of leg-work and blade-work taught me by Jesus men, a style started by Joe Saddler, England's Professional champion sculler in the seventies ; a style which sent Jesus head of the River in 1875, where they stayed till Hall bumped them in 1886, rowing in the same style, and Hall stayed Head until 1897, except for one year.

When Thames won the Grand in 1923, W. B. Close wrote to me saying my coaching synchronised the movements of the limbs better than any one else had done. Close was one of three brothers who constituted the most famous family of oarsmen that First Trinity had produced.

I must thank Mr. Arthur Eggar for his valuable help in editing my Notes. He has been of very great help to me in arranging them. His ideas agree with mine on rowing. In his book on Rowing he states the oar is an extra limb belonging to the oarsman. I go even further and say the oarsman becomes an extra part of the oar.

Heated arguments on "style" in rowing are always going on. These and carping criticisms do no good. There are certain principles underlying rowing, and what is called "style" is the endeavour to carry them out. Variations are merely failures to carry out the principles.

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Differences in methods of teaching are merely relying on different points to attain the same object. It is like two men climbing a tree from opposite sides : both are trying to get to the top. It is no good criticising either ; let them both go on climbing the tree.

I find the best results are got by exaggerating the points where the oarsman is most likely to fail. Critics are very apt to call these exaggerations part of a coach's style, and that is where most of the criticisms of style start. Oarsmen are most inclined to hurry the finish and start the next stroke too soon ; to ensure them finishing out the stroke, I find telling them to sit back at the finish is the best way to stop oarsmen cutting the finish. Not that they ever will sit back after the stroke is finished. In the same way I say, "Square the blade, and poise when forward," not that anyone will wait after the blade is squared. The most universal cry of all coaches is, "Slow forward," which means "If the oarsman wants to get quickly forward, he must not hurry." These are all examples of the old maxim, "More haste, less speed."

In the same way I do not coach for oarsmen deliberately to do no work. But all oarsmen have a natural tendency to slide fast, and coaches are apt to tell them to slide slower. This results in stopping the leg-work. I coach, "On no account stop the leg-work. Spring off the stretcher as fast as you can, and on no account reduce the leg drive to stop fast sliding. Keep on springing at your top, and slide and body

will move more harmoniously as the oarsman improves." Never sacrifice work to appearance ; but of course style is effect, and honest hard work will give true style eventually, and that is the only way to get true style.

I have always had grave doubts as to the possibility of expressing in print what one has at the back of the mind as the store of experience. The actions of the human body in rowing are mostly unconscious, and to explain them in words requires a conscious act—something different. To frame words which will convey the ideas in print is even less satisfactory, because one is deprived of the assistance of visual bodily actions illustrating the words, and one cannot test the effect of one's words on the reader and vary the metaphor accordingly.

My editor passed on to me a remark made to him by Bossy Phelps at Putney, that one could write on one side of a sheet of paper all that need be said about rowing, and then turn it over and write on the back all about sculling. I am not at all sure that Bossy Phelps wouldn't have been wasting paper ; for every man must try to find out for himself how a thing is to be done. However, we have followed Bossy's advice so far as to boil down my Notes to a pocket-book size, with the hope that, though we may be unlucky in the choice of words to describe and explain how I think an oarsman should set about his work, these Notes may achieve the main object by making the reader think out the matter and develop his own initiative.

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Using initiative is a knack which is not encouraged by civilisation, and it often seems that English oarsmen and athletes lack the capacity for taking charge of themselves that they would have if brought up in less civilised surroundings. The nation is too much nursed when young, too well looked after by schoolmasters, too closely shepherded through life by police and officials, and too well guarded by the law of the land ; and their young oarsmen are never allowed out without their coach. All this leads to a spirit of follow my leader, the cherishing of "parrot-cries" instead of principles, and the worship of the "orthodox" for fear of appearing to be egregious.

I come from Australia, a new country where people have to fend for themselves a good deal and consequently possess a larger share of the spirit of self-reliance that prompts one to take a short cut without hesitation where it leads directly to one's objective. In coaching Jesus College crews at Cambridge, I struck out on the independent line of concentrating on blade-work as a more direct means of acquiring the art of rowing than schooling the body to posture in the traditional style.

The true view of rowing is that it consists in the cultivation of the sense of touch, timing, control, and balance, which is the secret of success in every form of athletics ; and the main principle is, There must be no effort ; if you can't do it easily you can't do it at all. I had been educated to this general athletic sense

by my school-day sports of cricket, football, swimming, and gymnastics, as well as rowing. I rowed in the 'Varsity eight as a freshman when I came to Cambridge in 1881. And I rowed four years in the Cambridge crew.

The proof of the soundness of my methods of coaching is best shown by the performances of crews I have coached, so I will give them briefly.

I coached and rowed in the Jesus boat from 1882. They stayed Head of the River for four years, and won the Grand at Henley in 1885. Since I returned to coach in 1905 Jesus have had twenty seats in the 'Varsity boat—no other college of similar size can show anything like this result—and there has been only one Jesus man who rowed for the 'Varsity whom I did not coach, since 1881, and there were more than twenty years that I did not coach since that year.

Pembroke, whose eight also I coached all the time I was at Cambridge, got up to third on the River and won the Wyfolds and Ladies' Plate at Henley. Trinity Hall, whom I coached before the May Races in 1886, went Head of the River and also won the Grand; and the next year they won all the Eights as well as the Stewards' and Visitors'.

Coming back to England in 1903, after a period spent in Australia, I coached the Cambridge crew for a fortnight; and in 1904 I took the crew for the one day that I was in England. The rowing was quite sound then.

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But in 1905, when I returned to England and took up coaching regularly, the state of college rowing was shocking. The "lively recovery" had come in very suddenly and was destroying rowing; the teaching had developed a mass of exaggerations and made the sport an agony, whereas rowing with the true athletic sense is a joy. A masseur told me he had a steady business in massaging and strapping up torn abdominal muscles for about sixty men a term, before I returned to coach; but since I began coaching and Jesus men coached many of the other colleges, the swing became truer and there were no strained muscles to massage.

I found it impossible to reform the older hands, so I got a crew of nearly all freshmen the second year; and in 1906 Jesus went Head of the Lents, their May boat went up three places from being seventh on the river, and in two or three years they went Head.

In 1908 two men from the Jesus May boat were rowing in the Cambridge Olympic eight, and as two others had gone down, the Jesus Henley eight had to fill up with four men from their second boat; but they won the Ladies' Plate and did five seconds better time than the winners of the Grand under the same weather conditions.

The true faith had now spread to Corpus and Christ's, who were coached by Jesus men under my guidance. Corpus put up a wonderful performance in the Lents, making two "over bumps," two bumps the night they were

“sandwich boat,” and one bump the next night, going up nine places in four nights. Christ’s made four bumps and Jesus went up three places. In 1906 and 1907 Christ’s won the Thames Cup at Henley ; and as these are the only wins at Henley that college has had, it is an argument in favour of my methods.

Jesus have been Head of the Mays ever since 1909 except on three occasions—once after the War, when the crew were all freshmen with little rowing experience, and Third Trinity bumped them with a crew of seasoned Etonian oars. On the other two occasions I was away, and the coaches were Blues who tried to combine the style I had taught them with what the ‘Varsity had taught them, and on my return each year they went Head again. The Jesus second boats went up every night for four years both in the May and Lent races, and got fourth and fifth on the river, bumping the first boat of every other college but First Trinity in the Lent Races, and all but First and Third Trinity and Pembroke in the Mays. In fact, Jesus First boats were Head of the Lent and May Racers and the Second boats were making a mighty upward procession. One man made bumps on twenty-eight successive nights, getting seven oars, and going up nearly a mile in distance. In 1924 Jesus bumped Pembroke and Third Trinity, although these colleges had the bulk of the great 1924 ‘Varsity boat in the two crews and a good many Trial Eight caps, and Third Trinity with three of their crack

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four and a winning Visitors' four, one of whom won the Grand with Leander. On a rough calculation over 200 oars must have been won by Jesus College crews as the result of these unorthodox methods of coaching, and they have even beaten Leander more than once.

After the War I coached the Thames Rowing Club. They won the Grand, the Thames Cup, the Fawley Cup, and the Wyfolds three times. And they simply farmed the regattas, winning all the Senior Fours, Eights, and Pairs, and many of the other races. The Thames second eight, besides winning the second eight, have won senior eight-oared races occasionally, beating the first eights of the other clubs. They must have won over fifty races during this time. And they have never been beaten, whilst I have been coaching them, by a crew of equal physique and rowing experience. In fact, at Henley the only crews that have beaten Thames or Jesus are Magdalen College, Oxford, and Leander: the latter club has the pick of rowing material to call upon and should be left out of the comparison. Jesus got into the final of the Grand four times before the War, and Jesus and Thames have been in the final of the Grand every year since the War. Fully three times as often as all the other Cambridge Colleges have Jesus been in the Grand final; and Thames is the only Metropolitan Club that has got into the final since the War. So it is fair to say that my methods have proved more successful at Henley than all other

colleges and clubs, except Magdalen and Leander.

Besides being Head of the River so often, Jesus have won the 'Varsity Fours three times since I have been coaching them ; and leaving out the successes of Third Trinity, all the other colleges of Cambridge have won them only three times between them during this period : Trinity Hall once, First Trinity once and Pembroke once. These fours come at the beginning of the rowing year with a very short practice, and so Third Trinity's watermanship helps them very much, as witness the fact that from 1900, Third Trinity have won them fifteen times out of the last twenty-one races.

Such is a brief history of the successes of my methods of coaching. Not only have crews coached by me gone Head of the Lents and Mays ; been more successful than any other Cambridge college or Metropolitan club at Henley and in the up-river regattas ; won the 'Varsity Fours as often as all the other colleges combined, except Third Trinity, whose watermanship gives them a unique advantage in this race ; and got more seats in the Cambridge 'Varsity Boat than any other college except Trinity, a college over ten times as big as Jesus was when I started coaching in 1905 ; but also, with one exception after Jesus went Head in 1909, every crew I have coached has either gone Head or stayed there. The one exception being the year after the War when the

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Jesus crew were all freshmen mostly inexperienced in rowing and Third Trinity had a crew with more than the usual number of Eton oars who had captained Eton or rowed in the Eton Eight. In 1885 Jesus won the Grand with the lightest crew that has won it since 1880, at any rate ; and Thames won it in 1923 with probably the next lightest. In fact, Jesus and Thames have won their victories with material very much smaller and of less rowing experience than their opponents had. The difference in material is so great that it is similar to comparing polo ponies racing with race-horses. All these arguments are in favour of the style I advocate, which the *Field* says is too mechanical, too smooth and even. Higher praise is impossible. The *Field* also says the style is like that of the Belgians, the Aussralians, and the Americans : three peoples who have proved their superiority over English rowing at Henley and in the Olympic Regatta. The *Field* says the Orthodox style requires eight different men to try to acquire it in eight different ways, and apparently it is not mechanical and not smooth and not even. That is the reason why Jesus and Thames and the Belgians, Australians, and Americans do so well when they meet English crews.

A great many Orthodoxites will say we do not agree with the *Field's* idea of what Orthodoxy is. Quite so, and if twenty leading authorities were to write down their full idea of what Orthodoxy in rowing is they would be found to vary greatly. My advice is not to get into

controversies on style, as language is far too imperfect a vehicle to explain the ideas, but to settle down with the main object of coaching and rowing to move the boat.

I see I have omitted several important triumphs, the result of coaching in my methods. I coached the Australians for over a month at Putney, before they won the King's Cup at Henley the year after the War. Then I coached the Cambridge Eight directly after Henley, and they won an International Regatta in Paris, beating the Australians and nine or ten international crews. I coached my son and his crews at Eton, coaching him in a Junior Pair—after ten days they took both the pair and put them, one in the first Eton crew and one in the second eight—putting them over the heads of a great many rowing lads with colours. I always think putting two juniors up like this and the performance of Jesus and Thames second eights against the first eights of other colleges and clubs are the greatest proof of the correctness of my methods. And now I had forgotten the last Thames crew I coached represented England in the Olympic Regatta. Also in Australia I coached my last school crew from stroke; it won the Public Schools Boat-race. Later on I rowed in and coached from the boat an Inter-State Victorian crew; it won the Inter-State race. Upward, the Victorian coach, told me that was the fastest of all Victorian crews. I coached a Queensland Inter-State eight that won the Inter-State race, and an

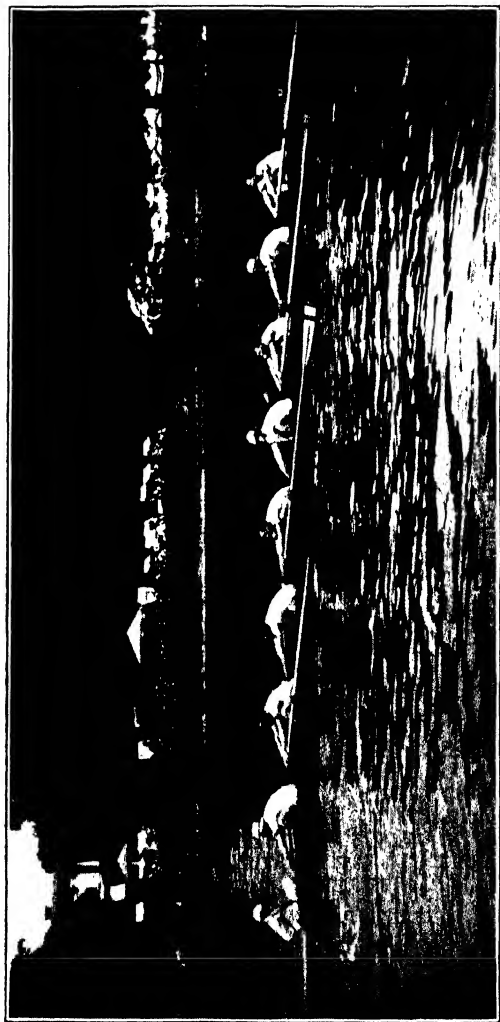
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Adelaide University crew that won the Inter-State 'Varsity Race. I coached only three other crews in Australia, none of which won.

It is natural that I should have been assailed with a great deal of hostile criticism, but there are signs that the principles for which I have contended are now seeming more acceptable to "orthodoxy." In my opinion, at any rate, the rowing at Henley and Cambridge this year was much more like what I coach for ; and I would compliment the Leander 1925 crew upon their faithful reproduction of the Jesus style. Possibly orthodoxy will be merely Oxforddoxy next year, developing into Awfuldoxy when it runs loose on the tow-path.

STEVE FAIRBAIRN.

1925.



THAMES GRAND CREW, 1923.

NOTE ON THE PHOTOGRAPHS

THESE photographs were taken in 1923 and 1924, before I started to write these Notes, and are photographs of crews practising at Henley taken in their natural positions. They are all quite unconscious of being photographed.

The crew that is photographed forward is the Thames Eight that won the Grand in 1923. The critics said this crew were piston rodding, meaning they were short. If one looks at the bodies, it is very apparent that they have a very long forward reach. It is the even pendulum swing of my crews that deceives the eye.

When contrasting the style of my crews with orthodox style, the *Field* said my crews were almost too even and too smooth. Dr. Bourne, in his book on oarsmanship, says my crews look too dreamy. They could not have given higher praise, especially as the criticisms were intended to be against the style in which I coach my crews. The *Field* further said my style was merely mechanical, and it was easy for a crew to get together in a second class style (meaning my style) and beat a crew trying to get together in a good style (meaning English Orthodox style)

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in eight different ways. The *Field* further said my crews were more like the Continental, American and Australian crews than the Orthodox English crews.

To criticise the above, let us ask what un-mechanical acts should my crews commit and orthodox crews do commit? How much less smooth and less even should my crews be in their swing? What are the eight different ways that a crew tries to get together in when rowing in orthodox style? And how is it easy for a crew to get together in a bad style? My friends and I all think the truer the style, the easier it is to get a crew together. How can a crew look too dreamy? Does not looking dreamy only mean being very smooth? In my opinion the dreamier a crew looks, the nearer it approaches to the poetry of motion. A crew looking less dreamy has only got more jerkiness in its action. The style of my crews looking more like the Belgians', the Americans' and the Australians', is correct; these crews work like mine, with the initial idea of moving the boat, and English orthodox coaching has, as a foundation, positioning the body. The crews my crews look like have beaten English crews at Henley and won the Grand five times in the last nine years previous to the War; and I think English crews only won during those nine years when there were no foreign competitors; and since the War the Americans have won the Olympic eight-oared race each time. So it looks as if English crews could learn something

from the crews that row in similar style to mine. And I am glad to say that they are doing so, for the average English crew of to-day is, in my opinion, basing its rowing more on the principles that I teach each year.

As regards the Thames 1923 crew being short, one has only to look at the body swing to see how untrue that is, and further, if one looks at the shoulders it will be seen that they are stretched to get the longest reach possible. They have four inches longer slide than the ordinary English crew, and being based more on leg-work, probably used them better. They slide to four inches nearer their stretchers and slide four inches further back. This would make the bodies appear to swing four inches shorter.

Now look at the photo and see how far the hands and oar are past the stretcher. I should say, fully six inches farther than any orthodox crew gets forward. The greatest criticism against my methods is my crews do not go far back. This is said without taking a comparative view from the side, of the finish of my crews and orthodox crews. I have compared my crews' position at the finish with orthodox crews at the finish, and they appear to me to be several inches further back at the finish than the average orthodox crews. It is the custom to say my crews do not go so far back because orthodox coaching starts the shoulders moving back—and so losing leg-work—quickly at the catch; whereas my crews are stretched out and then the whole body is driven back as far as possible

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in one movement ; and as they do not see an initial shoulder movement, they guess the bodies can't go back. Look at the photographs and you will see the bodies are driven right back and are farther back than average English crews.



JESUS COLLEGE CREW, 1923.

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force comes on the boat and crew, carrying them together over the course. All other contacts with the water make retarding frictions ; and no movements of the crew in the boat can make it progress or retard it any more than one can make a 'bus go from London to Oxford by merely running about inside it. "Action and reaction are equal and opposite" is the way mathematicians sum up a simple truth, which reminds us that the reaction of the water on the blade will do its job in driving the boat, although the man is only thinking of driving the water with the blade. By this method the oarsman concentrates on the tool he employs, and the blade is the only index that can be read as to what work is done.

If the driver of a motor-car is putting the clutch into the running gear and happens to be thinking of the road going past the car instead of the car going past the road, it makes no difference to the effect of the machinery ; he won't shift the street and knock down all the houses ; the car will move forward just the same as if he had been thinking of that. It's the same in rowing. Reaction looks after itself without taking orders from the man at the machine, and sends the machine along because it happens to be lighter than the road, the water, and the earth generally.

The orthodox brigade say it is the hall-mark of a good oarsman not to think of pushing the water past the boat. Perhaps they say this merely to prevent a man from being satisfied

with shovelling froth along the surface. But he won't do that if he rows a true blade and concentrates on getting his work against the water. The blade is the only indicator that shows the oarsman what work he is doing ; the thole-pin shows nothing. Of the two views it is better that he should think of his blade driving the water, as he can see what it does. He has no indication of what he is doing if he concentrates on pulling at the thole.

It seems to me that I have always worked on an idea similar to that of experts on Psychology, who describe the human mind as having two parts ; the reasoning and directing mind (the "objective" or "conscious" mind) giving orders to the mind that works the body (the "subjective" or "unconscious" mind). The latter, if not interfered with, acts automatically and works the muscles in the way it has found, by experience, to be best for the job. The conscious mind will cause friction if it tries to interfere with unconscious actions by placing restrictions on how the body is to be held and moved. In the best-oiled human machine the conscious mind can direct its whole attention to the object to be attained and let the unconscious mind control the body (the "subject") in the most efficient manner.

For those reasons I think it is a mistake to speak to an oarsman about his body when he is rowing—trying to correct faults in body-form, as the coaches call it. But I think one can help the man to make his body do the right thing

Don't burden the working mind with analysis of body-form

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by discussing the matter out of the boat, and describing the position and movements of the body during the stroke, so that he can learn what it is that he wants his body to do. Nature knows how to move his limbs to do what he wants, in the boat ; and the rate of his improvement will depend on his natural athletic ability, provided his mind is concentrated on the work.

Body-form
may be dis-
cussed be-
tween work-
ing hours.

An oarsman makes hundreds of movements during his life similar to all the movements of the body throughout the stroke, and he ought to be able to make the movements of rowing without being told how. Still, there is no harm in telling him the movements so that he has a clear idea of what they are. The best way to do this is to get the crew together indoors and have a talk over the body movements, and on rowing generally, the very first evening that one begins to coach them. The first thing the oarsman should understand is, one never can really "row"—I mean, one can never become a perfect example of an oarsman ; one can only illustrate in a boat what he thinks rowing is. The oarsman must get an idea of what rowing is, and the clearer his thought the better will he be able to illustrate it in the boat.

Read and
think about
rowing
when out of
the boat.

It is a very good thing for the oarsman to read notes on rowing, and read them frequently, to get the constant repetition of principles which makes the book like a rowing-coach. One of the Jesus men I coached used to read rowing notes every night. He was not an out-of-the-way good natural athlete by any means,

but his keenness in reading notes, and thinking about rowing, eventually made him so good that he got his Blue and became President of the 'Varsity. The important thing in reading rowing is not to swallow everything as if it were gospel truth, but to read, mark, learn, and inwardly digest. One need not confine one's reading to books that one agrees with; one finds food for thought mostly by disagreement. In fact, one should read critically, and think whether doing in a boat what one is reading would help or not, and then try it in the boat and stick to it if it helps. A man's success as an oar will depend on the amount of thought he gives to the subject, and it is a mistake to think the rowing-hours are the only time for learning. One can give the mind a brush up any time between working-hours. Talking on this point to a man once, produced the following answer from him: "Yes, I learnt to longjump sitting in an arm-chair," meaning that he used to think over the matter in the evening and illustrate his thoughts in practice next day. He won his college long jump. So brush the cobwebs out of your mind daily, and have it clean for its work.

"As you think, so you will act," is the idea to get a hold of. And one must clear the mind of irrelevant thoughts. A good example of this occurred my first October term at Cambridge. I met a fine big freshman only at the very end of term. I asked him how he got on in the College Trial Eights. He said, "They turned me out."

One must concentrate on the job in hand.

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It seemed to me there was something very wrong there, and I arranged to tub him next term. We started in a tub-pair, and after rowing a few strokes he noticed some girls on the bank and said, "Let us talk to those girls." This gave me the reason why he was turned out of the crews the previous term. He had never understood the need to devote whole attention to the job in hand. He expected rowing to come without thought, just by the act of rowing. I told him that was why he was turned out; his attitude did not give rowing a chance. I gave him the choice between talking to the girls or being tubbed; and after a week I turned him over to the third-boat captain. He rowed a week in the third boat and then got into the second boat, the highest college boat in the Lent races in those days. Next term he rowed five in the first boat; and then, next term, he rowed in the 'Varsity Trial Eights; and next term he won the 'Varsity Boat Race. And so I advise everyone to concentrate on the job from the start and think it out. Anything that is worth doing is worth doing well; the pleasure derived from rowing well is infinitely greater than that derived from indifferent work; and nothing can be done well without enthusiasm.

**And never
think one
can ever
stop im-
proving.**

Again, sometimes one sees a man get his Blue one year and get turned out of the boat the next year. That is because he considers he is a finished oar, having got his Blue, and goes on rowing without thought, and so deteriorates instead of improving. Blues have plenty of.

room for improvement. Any man rows better in his tenth year than his fifth, and in his twentieth than his tenth. Most Blues have lots to learn. In 1908 a scratch crew of six professionals, with Hutchinson and myself, paced the Olympic Eights; and we found we could hold them easily, because all of our crew had rowed from ten to twenty years at least. At the first stroke we were perfectly together. The art of moving a boat is a thing which grows with the years, if one keeps at it seriously. So keep thinking and trying; for as you think and try, so you will improve. That should always be the beginning of the lecture.

The idea to get thoroughly into the oarsman's head is the necessity for taking pains and rowing every stroke as well as possible. Every stroke well rowed will not only improve the oarsman and tend to make each succeeding stroke better, but it also reacts on the crew, because every other man in the crew feels every stroke rowed. A badly-rowed stroke sets up a nervous feeling which destroys the confidence of the other men; and a well-rowed stroke similarly gives confidence. When some or all of the four bow oars are asked to "paddle on," they get a good chance of rowing well because the boat is steady. It is very important to take that opportunity to paddle one's very best. I have seen many a bow four earning the race by their good paddling-on in practice, and, further, I have known men get their Blues through the improvement they have made on such

Always take pains, for the sake of the crew as well as yourself.

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occasions. The oarsman is a human rowing machine, and the more he practises using his body correctly the better rowing machine he will become.

One had better begin with a fixed tub.

And be shown how to step into a boat.

Be delicate of touch : remember the boat is a "she."

After the evening's talk on rowing, the next thing to do with the crew is to take each man and sit him in a "tub" and explain the position to him. This can be done best in a fixed tub. The coach can assume the position first himself, and then let all his crew get in, in turn, and let him position them. In getting into the boat he should illustrate how to step into the centre delicately and take both sides of the boat in his hands and let himself down on to the seat. This movement, and every movement, should be executed with the utmost delicacy of touch, timing, control, and balance. The cultivation of these four senses will improve the oarsman's natural aptitude as an oarsman, although holding the sides firmly in getting into a boat is only absolutely necessary for racing boats. In the case of a racing boat, the oarsman should step into the boat on the kelson, a thin rib running from bow to stern. It is the only place that is safe to put the foot on, and being in the centre of the boat, stepping on it will not make the boat roll. The oarsman should take hold of the sides of the boat, and steady himself into the boat, so that if it were moved whilst he is getting in, his foot would be in no danger of slipping off the kelson and going through the boat. It is very easy for the foot to go through racing boats, as the skin is only one-sixteenth

of an inch thick. He should take hold of the sides cleverly and let himself down on to the seat carefully. One sees some oarsmen step into the boat and flop on to the seat with a bump ; they at once show that their athletic capacity is not developed. Every movement should always be done as cleverly as possible. The oarsman should next put his oar into the rowlock, and take a hold of it, and from that moment he should keep the boat controlled and level. He should always see that he is sitting with the boat balanced level. And one may add, as a further point of boat-manners, an oarsman should always be alert and ready to start rowing ; he should not delay the crew by taking a long time removing his wraps.

One can tell pretty well how an oarsman will shape by the way he steps into a boat. If he steps in delicately, on the ball of the foot, placing his weight on the centre of the boat, holding himself well balanced, and lowers himself evenly on to his seat, one knows he has the makings of an oarsman in him, and that his sense of timing, touch, balance, and control is cultivated. So the embryo oarsman would be well advised to introduce all the delicacy of touch that he can into every movement. It will repay him in other ways, for, by doing so, he will keep on improving his athletic capacity; and as he gets a delicate elastic touch into a springy swinging stride he will enjoy his walking more and will be capable of walking much further. He will improve his health as well as his capacity for games.

Sit down
and adjust
the stretcher
to suit you.

Having stepped into the boat and seated himself on the flat of his hams and put his feet against the stretcher and pressed his slide back against the back-stop, the oarsman should see that the stretcher is placed in such a position that his knees are flat when his slide is firmly against the back-stop.

Here let us digress for a word on the subject of boat-building. The boat is built for the average man. The back-stops are all placed at the same distance from the rowing-pin (the thole of the rowlock against which the oar works when rowing). This would mean that the oarsmen's bodies would all finish the stroke at the same distance behind the "work," regardless of differences in their build. I think this is a mistake. The stretcher should be adjusted to suit each man's build and there should be no stops, so that the slides are practically unlimited.

Back-stops
on the slides
are not
really
necessary.

After the War, the sliding-seats of the Thames crew required renewal and could not be replaced with similar seats because these had been made in Germany. Another make of slide had to be used which needed the back-stop being put farther back; but there was no room in the boat for this to be done and, during the discussion as to where the stops should be put to suit the crew, the boatbuilder said, and the boatman agreed, "They will never notice that the back-stops are gone." And they never did. They won their race at Henley and did a lot of rowing with success, in other regattas; and nobody complained of the want of back-stops.

The front-stop, also, may be discarded. It is there to keep the slide from coming off the runners in front. (Speaking of "front" and "back" as we always do, with reference to the position of the oarsmen's body ; and using the terms "fore" and "aft" with reference to the boat.) It is a rule of rowing that the front-stop should never be touched by the slide, although the slide should be brought right up to it. If the oarsman is properly controlled in his swing, he will not hit the front stop. It certainly prevents him bringing his slide right off the runners, forward. But if he has so little control, the best way to force him to regulate his sliding is by letting him come off and flop into the bottom of the boat.

Even front-stops are not necessary.

Most English crews use slides with 16 inches play, and slide up to their "work," that is to say, with the aft (front) edge of the seat sliding up to a level with the rowing-pin. Some advocate not sliding up to their work, but stopping the slides two or more inches behind the work. I advocate giving as long a slide-bed as possible and, so far as is practicable, making the slides of unlimited length.

There are various opinions as to the length of slide necessary.

Already we have opened up many debatable points. So the reader will see that rowing has not been reduced to an exact science. Another point there is a difference of opinion on is the slope of the slide-bed : some have it perfectly horizontal, others have it on a slope, being half an inch to an inch higher at the back than at the front. I fancy the best way would be to have it

Differences of opinion afford exercise for thought.

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so that the runners would run straight towards the bottom of the stretchers, if they were produced to the stretcher. This would give the straightest drive off the stretchers and a natural control to the forward swing.

The feet must be planted firmly on the stretcher.

Sitting in the boat, with his feet planted on the stretcher, the oarsman should have his heels together and the feet turned outwards naturally—at an angle of 45 degrees, it is said ; but this is not an absolute rule. I have known good oarsmen who find they can row best with their heels apart. In lifting a weight one certainly places one's feet some distance apart as giving the best stance.

The imaginary position for the finish may be shown by posture.

First let the oarsman posture in the correct position for the finish of the stroke. His knees should be pressed down flat and the body taut, but easily erect. He should sit with the body back, well past the perpendicular, with the feet pressing against the stretcher, pushing the shoulders as far as possible so that the body is stretched to the utmost length ; shoulders drawn back, trying to make the shoulder-blades meet ; elbows drawn back past the sides in their naturally strongest position ; and the hands just moved away from the body. That is the correct position for the finish.

Sit upright without straining.

This gives a straight back with the spinal column naturally supported on its own arches. It is a position of rest, but one must be sure that the body is taut while it is held easily erect. The body should be taut ; but there must be no cast-iron rigidity about it. One sometimes



FINISH.

Body come to absolute rest as hands are just started away.

sees crews with their backs held stiff and the hands being dashed away, with a quick but inelastic motion, as the product of too zealous coaching for body-form. There should be no stiffness ; one should feel elastically stretched, and the hands should come away with a smooth, elastic movement. One should feel as if moving on well-blown tyres, and as if on ball bearings.

With the knees flat down and the feet pressing against the stretcher, one gets the firmness of seat wanted for the taut and controlled position of the body at the finish. It is the generally accepted idea that the back-stop is necessary to supply this firmness ; but I think the true foundation is the firmness of leg drive, which is encouraged by the absence of back-stop. Most professional scullers hold this view, and one may count on their views being sound, because they earn their bread and butter by it.

From this position at the finish, with the hands moving away from the body, down and forward, the body swings forward just after the hands have got away ; and, just after the body starts, the knees rise and allow the body to swing the slide up. "Hands, body, slide," is the order of timing. The movements should be as natural as when picking up a piece of paper ; to do this, one would start the hands first, the shoulders would follow, and then the knees would bend. It is necessary to keep the knees down and the slide back as the hands start away and the shoulders begin to swing forward, because the hands must not foul the knees in

Knees down
and seat
firm.

Coming forward may
be shown in
slow motion.

Hands,
body, slide.

Move
naturally.

passing ; if the hands hit the knees, the swing and balance will be upset. Partly for this reason, doubtless, and partly to try to get a longer swing, the orthodox coaches aimed for a "lively recovery" ; but it was an effort and a false movement exaggerated into a harsh action which was destructive of the sense of rhythm. Making no apparent effort on the forward swing is really the hall-mark of a good oarsman, and the crew with the all-round easiest and laziest-looking forward swing is a sure winner, because being a perfectly even movement it is really the fastest and longest as well as the easiest.

**Swing
straight.**

The swing of the body should be perfectly even, the body easily erect, swinging always on the balance. In a rolling boat there is a tendency to lean off the balance in the vain attempt to correct the rolling : this is called "screwing." It is the rolling that is liable for many, if not all, the faults of body-form ; and if one teaches the crew to get the boat level and steady, these incorrect movements will disappear. But many a coach loves pointing out body-faults, and I fancy some oarsmen are just as proud of their faults as the old lady in one of Barrie's novels was proud of having the biggest cancer on record.

**Balance the
oar on the
feather.**

The hands hold the oar balanced on the feather as long as possible. The longer the oar is held balanced on the feather, the better. The blade should be turned square just before the end of the forward swing. With a fixed

rowlock there comes a point where, with lateral pressure only, the blade will turn square with a flick ; that is about six inches before the oar is full forward. At this point the blade should be squared and rowed into the water with one movement, consisting of lateral pressure and an upward and rounded circular movement of the hands assisting the natural turning movement of the oar. It may be done by a flick of the little finger and thumb of the inside hand, and the inside wrist riding "proud" if necessary.

Square the blade, and poise.

To examine this movement : the hands are raising the handle of the oar to bring the blade towards the water. The handle is moving upward and forward till the blade is square ; and then upward and back as the blade takes the water. When the oar is on the feather, it is necessary to have the blade well off the water so as to allow it to be squared without touching the water. If the blade touches the water as it is squared, the timing of the stroke is ruined. One must give room for this upward movement of the hands by keeping the hands low enough, when coming forward, to carry it in the air on the balance. One must not slobber along the water on the feather and then bore down with the hands and sky the blade to turn it square ; simply be sure you feel the blade in your hands always.

Don't slobber on the feather.

The oar must be held controlled all the way, coming forward ; and one should hold it so that it rests on the forward part only of the flat of the loom on which it is balanced on the rigger.

Don't hurry
the timing.

This forces the oarsman to keep a true controlling hold ; it also keeps the blade at a safe angle for feathering ; it also ensures that, when turning square, this part of the loom makes contact with the rowing-pin decisively and turns the blade fully square.

To make this contact of the loom with the rowing-pin is most important ; it is what makes the poise necessary. One hears coaches say, "Get in quick." They don't realise that the oarsman is trying to do it as quickly as he can, and "get in quick" will simply make him scramble and start the stroke before he has completed those numerous movements that make these turns sleight-of-hand tricks. Trying to start the stroke before this contact is made is fatal ; an apparent slight hang is no harm in a crew ; they don't hang really, but they are taking time to gather and strike. "Poise" is as good a coaching-cry as "Slow forward," or "Sit back at the finish till the cows come home," or "Let the run of the boat bring you forward."

Gather
on the
stretcher.

The body swings forward with the idea of springing off the stretcher. To do this the weight of the body must be transferred from the seat to the stretcher. During the forward swing it is a very common expression to say, "On your feet" ; but it seems to me a wrong cry. What is correct during the forward swing is to feel your feet on your stretcher, and feel the boat running out from under you. Swing on to your stretcher, compress and gather to spring and strike. These expressions convey

the true idea to me, and "on your feet" is not apt, because the weight is not transferred to the stretcher till one springs, just at the turn; and then one transplants the weight from the seat to the stretcher, by the same act as one gets out of a chair. Trying to plant the weight of the body on to the stretcher too soon would only ruin the swing.

Springing from the stretcher is very like what one does when making a standing jump. For the latter, the body will be swung down between the knees, compressed, and gathered ready to spring. The hands are in a different position from what they are when rowing, because they have a different end in view, but the body and knees move in just the same way, because they have the same object in view, namely, to spring the body as far as possible. An intending oarsman could not do better than practise standing jumping to get the timing, the balance, the taut, elastic, whalebony feeling of the body necessary in jumping and in rowing, as well as in all athletics. He will feel the true gathering and compression necessary to spring and strike. The body comes down between the knees, with the spinal column arched inwards if anything, the knees opening outwards. This to me seems to be the absolutely natural movement of the knees, which should go well past the sides, letting the body well down between them, although some good oarsmen and scullers say they find their best natural position is with the knees together.

Spring from
the
stretcher
and row the
blade in.

Spring from the stretcher and row the blade in—that is how we “get the beginning” of the stroke. The oarsman gives one clean spring from the stretcher, with the idea of moving the whole weight of his body as fast and as far as he can. At the same moment the hands, continuing their upward movement, row the blade into the water, and so bring the oarsman’s weight against the rowing-pin. The oarsman and the crew are nothing but a human hammer driving the boat with a hit. A hit is not a mere tap-and-withdraw action. When I was taught to hit by my boxing instructor, he took hold of my left glove and told me to advance it steadily, and as it landed on his face to lift my front foot and push with the other. So the beginning must have a push in it; not merely the momentum of the body being thrown at the water and vanishing in it, but a full-powered drive beginning with that momentum as the blade takes the water, and carrying it through with a drive from the stretcher. It is a timing hit; and when one gets the timing right one rings the bell every stroke, so to speak, and that with the least muscular effort, so that one can row the long course without muscular exhaustion. That is the hit to play for, and one knows that one has got it right when the bell-note which the blade makes rings steely and true. One knows it is a clean-through hit when one sees the blade cutting evenly through the water all through the stroke.

At the moment of impact the weight is moved



NATURAL, INITIAL, MOVEMENT WHEN FULL WEIGHT IS
ON THE STRETCHER AND BODY DRIVEN INTO THE AIR.

From there the drive is right back, the shoulders being driven as far
back as possible. Note the shoulders' powerful grip.

from the seat to the stretcher and sprung back from there. If there was no blade in the water the oarsman would go flying towards the bows of the boat with his oar in his hands (as actually happened to me once in a tub-pair, when my oar snapped in two at the beginning of a stroke).

The effect of springing on to the beginning in this manner is to put the boat in motion suddenly, with the greatest possible acceleration ; it makes the boat jump in its stride and punch cox in the back. In my school-days we practised this jump on our own, so as to play a joke on our coach, who used to stand in the boat holding the rudder lines. We nearly succeeded in pitching him out ; but his comment, "Well rowed," was a complete justification of the experiment. It struck me, when the coach said "well rowed," that the best way to try to jerk the cox out of the boat was also the way to move the boat quickest, and that is the way to apply the weight that I have coached for ever since.

Make the boat jump forward in its stride.

The whole body must be taut at the moment of impact, just as a boxer's body must be stretched from toe to knuckle at the moment he delivers the straight -left. It is of the utmost importance that the full power should be applied at once, and the initial movement must be to spring off the stretcher ; this must start the slide moving, and the spring stretches the body and moves the slide and so generates a hit with the full weight. The orthodox way is to "throw the shoulders on to it," beginning the stroke with a

Tightening the body before the impact.

Shooting
the slide
first, if that
gets the best
result.

body-jerk, and "holding the slide." But the action should be as natural as possible, and then the slide will run free and the action of the blade—the true index of body-form—will show that the work is applied most effectively. Professional scullers, forty years ago, used to say they hit the boat with a running slide ; and there were magnificent scullers on the Thames in the eighties. Every amateur sculler knows it is the best way to get a boat along. And every beginner at rowing sets about the job in this way, unless or until he becomes affected with orthodoxy. If Nature is allowed to take charge of a man and find a way to get his strength into his blade against running water, the result has the appearance of a slide-shoot which is very noticeable if one is accustomed to see the orthodox shoulder-catch. But Nature's way is the best. I remember one day tubbing a 10 stone 10 recruit from the Jesus football world. He shot his slide right back with a bang, apparently before his blade hit the water. This appeared even to me to be an exaggerated and wasteful use of the slide, but I let him go on, as he undoubtedly was showing a remarkably good blade, and I watched the experiment with interest. In his first year's rowing he went to Henley in the Jesus second boat. I watched him carefully over the first course he rowed. The farther he went the more powerfully he rowed in comparison to the others. In the next October term I rowed three with him at stroke in a scratch four that went out to give the

College October four a spin, just before their races began. I was surprised at the perfect ease of the stroke ; without any exception he had the sweetest rhythm of any stroke I had ever rowed behind ; one felt all oil. We started with the other four and had the pace of them very easily. Next summer (and that was only his second year of rowing) he rowed seven in the Jesus first boat at Henley, and was only beaten in the final of the Grand by the Belgians. After that, I gave my crews plenty of liberty to let their slides run—with no small measure of success, as even my critics must allow. This man taught me something after forty years' rowing. We can all always learn.

Of course one can shoot the slide and by holding the body back do no work. Slide-shooting is not the thing to aim for ; it is only a means of getting work against the water in the most effective way. One asserts the doctrine strongly in order to negative the doctrine of shoulder-snatch ; but to assert it too strongly would be equally faulty. If a man pushes his slide right back without taking the shoulders along too, his blade will stay where it is and no work will result. Doubtless it is with the object of preventing that fault that the coaches for body-form call for "getting the shoulders on to it" and "holding the slide." My experience teaches me that if an oarsman rows with the thought that on no account must the slide run too fast, he will not row so freely or so well as if told on no account must he check the full

But don't exaggerate details of style.

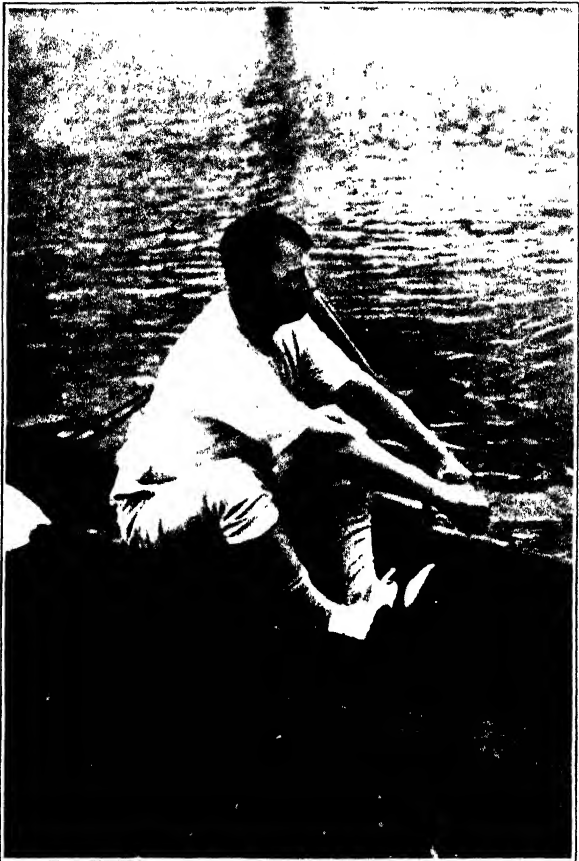
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use of his legs. But there is no need for these tight-laced restrictions when one is coaching for brain-and-blade form. If the oarsman concentrates on blade-work as the end to be aimed at, his body-form will not commit errors of substance.

All the oarsmen and coaches I have got to try fast sliding say it is a wonderful revelation. Even orthodox oarsmen have a tendency to develop the Fairbairn style when Nature asserts herself ; but, of course, they say the Fairbairn style is growing more orthodox when the similarity is noted.

Row the
blade in.

“Rowing the blade in” is another source of disagreement. The orthodox people say it is a waste to row any part of the stroke in the air, and to check it, they coach to get the blade in before the power comes on ; they say, “Drop the oar in,” thereby giving an initial back-watering movement, and then a dull, blood-vessel-bursting drag instead of the springy punch that one wants. However much an oarsman tries to carry out such advice, his subjective mind instinctively takes possession of the situation and introduces the hit. There must be a hit of the blade to catch the water. The water is moving and the machinery of the body is moving through one cycle after another. The motion of the stroke must be started before the weight comes on, to overtake the running water and to get the body “stretched” before the hit. But, of course, one must not make a parrot-cry of “Rowing the blade in,” nor think the object



ROWING BLADE IN.

Weight transferred from seat to stretcher.

of rowing is to smack the blade down on the water.

Getting the body taut and timing the beginning is aided by letting the mind go ahead of the work. As the blade is being squared and the body is gathering on the stretcher for the spring, the thoughts should be looking forward to springing back off the stretcher, striking the water, and moving the boat. By carrying the thought ahead one gets the knack of timing, and any wrong thoughts about body-work act as friction if they come into the mind at this point. The oarsman should form the mental picture of himself as he springs from the stretcher, pushing it with his feet, as the blade takes the water and the loom of the oar drives against the rowing-pin; and then of his weight on the stretcher, the blade and the rowing-pin, sustaining himself by pushing against the stretcher and pulling against the water and the rowing-pin.

Keep the
mind ahead
of the work.

As I have said before, the stroke is not a mere momentum-hit, not merely chucking the body at the water with no following drive—as indeed an orthodox coached oar is likely to make it when his shoulder-catch kills his leg-drive or discourages it out of action. The length to which the fallacy of body-form can be carried is illustrated by a recent editorial article in the *Field* stating that “a crew’s weight is always with them. If you trust to muscles to push it, those muscles will tire; but however tired a man is, he can still swing his weight back and forward, so long as his feet are balanced on the stretcher.”

Use your
muscles to
use your
weight
alone.

Start with
the leg-
drive.

What a pathetic illustration of the state of the man whose shoulder-catch has broken down his leg-work and only his weight is left to console him—a sack of coals balanced on a bag of chewed string ! The body cannot move at all without muscles to push it. You can't "use your weight" without pushing it back. You must use your legs from the very start.

It wins
races ; and
no cups are
given for
stylishness.

Herein lay the difference between Jesus rowing in the 'seventies and the other colleges, when Jesus was so successful. W. B. Woodgate remarked that Jesus would have won the 'Varsity Boat Race for ten years had they not been hampered by the other colleges ; and I could cite many good oarsmen who hold the same opinion. I should say at a guess, counting each bump as winning a race, that crews coached for pushing the weights from the stretcher by me have won over two hundred races, and I don't think anyone can point to one occasion when any of those crews has been beaten by a crew of no better watermanship, rowing experience, and physique. The crews I have had have been small in physique, some of the Thames Junior crews being very small and young. I coached the Australians for some time the year after the War, when they won the King's Cup at Henley, but I can't say I taught them this. because they always had it ; all of them based their rowing on this leg-drive.

Carry the
stroke
through
with a draw.

The stroke must be carried through with a continuous "draw." The communication of the power to the water, and thus to the boat,



FINISH, HANDS JUST STARTING AWAY.

is done by drawing at the handle of the oar, as if the oarsman had a heavy weight in his hands which he wished to throw as far over the bows of the boat as possible. Regarding this weight as the weight of his own body, the action and intention are possibly identical with the current belief in "using one's weight" during the stroke.

One has to draw continuously at the handle of the oar, and should feel like a piece of elastic, stretched from toes to fingers ; the feeling being that the body is pushed back, with the shoulders stretched as far away from the feet as possible, and held in control without tremors or waverings. The whole crew is pulling at an invisible rope in a tug-of-war when the "Taut, together, heave" is given.

Oarsmen, especially beginners, vary the draw very much more than most people think. The blade will indicate the truth of the draw, the more evenly it cuts through the water, the more evenly and continuously is the weight applied. One sees, in a tub, the blade move and stop frequently, with a young oar especially. This means the weight has been applied and let off, or that he is rowing by a succession of tugs.

As the shoulders have to go farthest of all parts of the body they will move correspondingly fastest, so that they will arrive pushed away as far from the feet as possible at the finish ; and that is the picture I have in mind when describing the body as stretched like elastic.

Like
stretched
elastic.

Use your
arms.

One draws with the arms alive, and here we meet with another difference between my methods and "orthodoxy." The latter teaches one to row with the arms straight and not to use them. W. G. East, a Champion professional sculler of England, writes in a small book on rowing, as follows: "The amateurs say they do not use their arms when rowing. All I can say is, every professional does." I always teach my crews to draw with the hands as hard as possible, letting the shoulders move as freely as they want to, and the elbow-joints bend as soon as necessary. That is what East meant: draw freely and as hard as possible; and the arms will begin to bend almost at once. The reason why Orthodoxy funks bending the arms is because they think the arms would tire, and at any rate would draw the body up to the oar.

Try rowing with the arms bending naturally and see for yourself. You will find at once that one does not use the arms; one uses the back muscles, and what is more, one cannot use the arm muscles. I have many times got crews to row with their arms bent as hard as they can, and if anyone can tire his arms, to tell me. I have never yet had anyone tell me he can tire his arms by trying to use them. I often get a crew to row a piece with bent arms; it is one of the best exercises to give them. It teaches them how to draw the weight evenly and makes the draw a true regulator.

And as for pulling one's body forward with

the arms, this becomes impossible when the mind has been educated to use the legs properly.

Another very good exercise is to row with the arms straight, and never bend them, finishing with the arms perfectly straight, and the oar at arm's length to the body. This does not make one row stiffly at all, as one might imagine ; and it has two very good points—it teaches one to let the shoulders play freely, and it teaches one to strike on to the balance truly, with the body held back and prevented from coming forward till the oar is taken out of the water and started away ; moreover, it teaches a true body-swing. These are all very essential points to learn. To take the shoulder-play first. Here again Orthodoxy controls the shoulder movement, some going as far as to make the crew hold their shoulders perfectly square all through the stroke, being afraid of getting their shoulders hunched up over their ears. But this is not the necessary consequence of using the shoulders. The shoulders can be stretched out to their full reach without rising in their sockets. Also both shoulders do not stretch out the same distance, because the outside hand is farther forward than the inside hand.

And the
shoulders.

I believe the right thing is to let the shoulders reach well and naturally forward, and during the stroke let them be rowed right back naturally. Trying to make the shoulder-blades meet at the finish encourages the action. By this drawing movement of the shoulders one can get a foot more reach and apply the weight a foot longer.

And the
elbows.

I believe that the best way to apply one's weight right through the stroke is by letting the shoulders and arms play as feels most natural and unstrained. The elbows should be drawn well past, but not unnaturally close to the sides. Let the oarsman draw his elbows strongly as far back as possible, so that the inside elbow is drawn at right angles to the oar. Keeping the elbows close to the side is antagonistic to the natural play of the body at the finish.

Giving a
final whip to
the oar.

One should keep the legs and back at work right through the stroke and end it with a final whip to the oar. That gives pace to the boat. Whether one is throwing a weight, jumping a high jump, or driving a golf-ball, it is the final kick of the muscles that has the most effect. So the oarsman throws the boat away on her journey with this final whip of the oar, flicks the oar round the turn, and starts the hands away.

Getting the
hands away
at the finish.

The knees being driven down flat and the body driven right back, as the hands whip the oar round on to the turn, the last part of the backward movement of the body should be timed with the first part of the movement forward of the hands. The hands should start away whilst the body is still rowing back. This movement is most important and is the hardest to get correctly timed. One should not think about getting the hands away ; one should think about getting the body away from the hands. The danger of thinking about getting the hands away is that one is apt to start the body forward with

the hands, and so take the weight off the drive just a fraction of a second too soon, and so get the blade out dirty, and make a sluggish, slovenly movement. It is better to let the body aid the hands in getting the arms straight between them ; it makes sure of rowing the stroke right out, and so getting the longest, hardest, truest, and cleanest finish. The whole movement may be described as the hands flicking down and away while the body is finishing its backward swing and reversing its motion.

The blade has to be extracted from the water and carried back in the air on the feather. The orthodox way to do this is, firstly to drop the hands straight down to bring the blade out of the water, secondly to turn the oar on the feather by dropping the wrists, and lastly to straighten the elbows so as to carry forward the hands in a straight line to the front. If these instructions were carried out to the letter, the blade would be back watering before its extraction is completed.

**Feathering
and drop-
ping the
hands.**

The beginning of the movement of getting the hands away is to start turning the blade on the feather just before the finish of the stroke. It is obvious that back-watering must follow from dropping the hands before feathering and trying to lift the blade out square. If it can be done without knocking the oarsman backwards, thanks are due to the use of fixed rowlocks with a lot of play between the thole-pins giving the oar room to shake out of the entanglement, falling astern for the fraction of a second during

**Start the
feathering
first.**

which the water is at the back of the blade. It could not be done with a swivel rowlock, which grips the loom of the oar more closely. That is the reason why swivel rowlocks have not come into use amongst orthodox oarsmen. An Eton master said to me, "We believe swivels are best, but we cannot teach how to use them." And yet they could not see the reason; they persisted in their dogma of dropping the hands first and tried to make the drop more and more lively to get rid of the back-splash at the lower end of the oar. Dr. Warre even invented a barrel-blade, shaped so as to lift up its lower edge, and get it out of the water cleaner.

Swivel rowlocks are best for good watermen.

They will have to give up that finish, and the delight in making the oar rattle in the rowlock, before swivel rowlocks come into general use. American, Canadian, and Continental crews all row with swivels. They are much better rowing appliances than fixed rowlocks. The swivel, being close round the oar, is always handling the oar knowingly; while the slip in the fixed rowlock must amount to yards of distance lost over a long course. Energy is lost in the rattle of the oars in a fixed rowlock, and it is a false notion to time the stroke by this sound. A true sense of timing is based on the feeling of the movements being done together; the swivel oarsman, having no rattling noise to confuse his senses, develops this sense of feel and becomes a better oarsman than he would be with a fixed rowlock. The swivel feels like rowing with pneumatic tyres and ball-bearings,



FINISH.

Note body come to absolute rest.

and there is no fear of locking the oar when forward, as there is with fixed rowlocks. Another advantage of the swivel is, the loom of the oar is always at right angles to the work, as the swivel swings with the oar.

And so, having started the turn on the feather, we row the hands down to flick the blade out, on to the balance, and then away with the hands—but all in a hundredth part of a second ; with a light hand, but with the utmost firmness and precision. One must flick the blade out with a light hand ; not a gingery, nervous movement, but a lightning dash. **Flick the blade out.**

To flick the blade into the air, the hands must be rowed down. The action is firm and swift. It should not be a rude bang ; but the imperative necessity for the quick application of the downward force of the hands may be brought home to the oarsman by telling him that the striking on to the balance should be such that the handle of the oar should be struck downwards as if he were trying to break the oar across the sill of the rowlock. It is not a bad thing to take the oarsmen out in a tub with unstrung fixed rowlocks and make them strike down so hard that the oars spring up out of the rowlocks ; and let them notice that the rowlock does not sink down, but seems to stand up to the blow and chase the oar up into the air ; and the harder the downward stroke, the lighter the action feels. This description of striking on to the balance may seem to some to be heavy, but the quick lightning flick can only be got by deter- **Dropping the hands.**

mined hard striking. This movement is the key to good rowing. Let anyone who thinks dashing the oar handle down hard to flick the blade up is a heavy movement try it in a tub, and he will find the harder and faster he makes this turn the lighter the action and the truer the balance. Of course there is no heavy clumsiness in the movement ; it should be all smooth, rounded, and oily, but fast and determined.

The action should be the same as when a surgeon takes sticking plaster off a wound : a quick, determined, and firm flick. The orthodox critics said the reason the Thames 1923 crew beat their bigger and more experienced opponents was their wrist work, and this action was the basis of it.

I was coaching a four at Eton ; one of the boys slobbered his oar on the water very badly and seemed in hopeless trouble about it. After watching him for a while, it dawned upon me that he was trying to lift the blade into the air by raising the oar, bodily, in his hands ! He had not realised that the blade is made to rise by lowering the handle of the oar. I had to give the crew some minutes of the drill of raising and lowering the hands in order to separate this notion from the tangle. That was the worst case I ever had to deal with. But many oarsmen are beaten by inability to strike on to the balance correctly owing to minor troubles.

**Grip the oar
firmly but
delicately.**

The hands hold the oar about a hand's breadth apart, the outside hand being at the end of the oar. This is a good position, though I

have seen some very good oars row with their hands close together ; and I always used to slip my inside hand up to the other when putting the last ounce in. The grip is with the fingers, which give the strongest hold, and also the most delicate touch. The oar should be gripped firmly but delicately ; some people say lightly, but there must be no thought of indecision or holding the oar gingerly ; it should be the firm, steely grip of the fencer.

The weight applied by the inside hand should strike the oar on to the balance ; in fact, the inside hand should do all the control ; the outside hand draws the oar home together with the inside hand, and does its full share of work up to this point, but from here it is handicapped, the wrist and arm not being at right angles to the oar, whereas the inside wrist and arm are at right angles to the handle of the oar, and consequently in the best position to control it. It is the weight applied by the inside hand that strikes the handle of the oar down, and flicks the blade into the air, and brings the oar on to the balance on the sill of the rigger. Dr. Bourne says the outside hand taps the oar-handle down and the inside one starts it away. This would give the young oarsman a very complicated movement to master all at once, and I don't think the outside hand should participate in the movement. The inside hand is certainly the one that does all or the bulk of the movement, and it is best to concentrate on it alone. One has only got to look at the action of any first-

The inside hand controls the finish.

class oarsman's outside hand, to see that he lets the oar play in his hand, and the inside hand does the work. I find one of the best exercises is to make a man row the oar round the turn and carry the oar forward with the outside hand off altogether.

Now we come to the wrist action. Here we have possibly another anomaly: true wrist action is not a bending of the wrists. They must be taut and flexible as whalebone, but firm and steely; in fact, a steely wrist is the greatest asset of an oarsman. There must be no slackness or floppiness in it at all. Vardon says, in a book on golf, he doubts if one uses the wrists at all. Bossy Phelps, who has coached eight winners of the Diamond Sculls at Henley, says the turns on to and off the feather are not made with the wrists at all, but by rolling the sculls in the hand. Ian Fairbairn, the most perfect machine I have seen in a boat, does not move his wrists, but makes the turns entirely by the roll of the handle in the hands. I myself find that I grip the oar firmly with the fingers and do the turning by this roll. And it would seem that orthodox oarsmen find their wrist-dropping theory develops into something of this sort, in practice; for Dr. Bourne, in his book (p. 99), says the necessary turning movement of the handle is ensured by a momentary pinch or grip between the thumb and first two fingers of the inside hand, although this is somewhat at variance with the black-letter type with which he has nailed the flag of orthodoxy to the mast

on page 94, saying, "The moment the thumbs touch the body, drop the hands smartly straight down, but not more than is sufficient to bring the blade clear out of the water ; then turn the oar on the feather by sharply flattening the wrists, and at once straighten the elbows so as to carry forward the hands in a straight line to the front." To the young oar I would say, Keep the wrists firm, and try to turn the blade with as little wrist-work as possible, but especially see that the wrist does not sag. The turn on to the feather is started just before the finish ; **Feathering with the fingers.** as the hands draw the oar home, the fingers of the inside hand give it the rotary motion which turns the blade.

The oarsman must not try to think of all the detail during action ; the movement is all over in a hundredth part of a second ; he must just keep on trying to propel the boat, and let the subjective mind unconsciously work the limbs correctly. I have examined these details during the years I have been coaching, but many, if not all, of the movements came to me quite unconsciously. Still, reading notes, thinking over them, and imagining oneself rowing as one reads, will help to acquire the knack.

The turns at the finish and beginning are **Don't hurry.** sleight-of-hand tricks. They are so complicated that they need plenty of time. I have found that the best coaching cry is, "Row the stroke out and sit back till the cows come home." This **Finish the stroke out.** is not offered as advice to be followed literally, but it is the best method to overcome the anxiety

to hurry on, and so cut short the part of the stroke one is at. It is very natural to think that the stroke is rowed out before it is, and telling a crew to sit back will at the most only get them to finish the stroke out. The crew are all aware that the faster they can get on to the next stroke the better, and so they are inclined to hurry on with it. The oarsman should realise that by finishing the stroke out he will be more likely to get the timing correct for the next stroke. He must remember the maxim "More haste, less speed."

**The reversal
of motion at
the finish
summarised.**

At the finish the body is being driven back as far as possible by the legs and the hands that have transmitted the weight to the water by the blade, and to the boat by the loom of the oar pressing the weight against the thole or rowing-pin. The hands, by drawing, bring in the back muscles to apply this weight. The body is driven out stretched back, and all its weight is being used, from the tips of the toes to the tips of the fingers, to propel the boat. This weight is on the stretcher, blade, and rowlock; then, in an instant, all this hard driving of the body and drawing ceases, the weight of the body is transferred on to the seat and all the muscles come to rest; the blade is turned from square to flat and transferred from the water to the air, the oar is balanced on the sill of the rowlock, and the oarsman floats forward at rest but thinking ahead with the idea of compressing on the stretcher and gathering to spring, so as to strike and draw once more.

The secret of doing all these movements correctly is to take plenty of time.

When I returned to Cambridge to do coaching, in 1905, I found all the crews going for a "lively recovery," as they called it. It consisted in an *effort* to swing the body fast and far in the first part of the recovery, and it was doing infinite harm. The oarsman has a natural tendency to hurry forward; no oarsman will sit back after the stroke is finished out, and nearly all will hurry the finish. The best rule for coaching is to make them take plenty of time over the finish and be sure that it is rowed right out.

One stroke glides into another. But, in order to show an oarsman where the stroke ends, I sometimes put him in a tub, get him to finish a stroke right out and stop him when he is in the correct position for the end of the stroke, sitting with the blade of the oar balanced in the air, and his body controlled for the swing forward.

It should now be pointed out to beginners how the handle of the oar describes a segment of a circle round the rowlock. Many young oarsmen think of the hands going forward in a straight line with the result that they fail to maintain the lateral pressure necessary for keeping the button of the oar always closely associated with the rowlock. As the hands move away, it is easy to keep the button against the rowlock to the half-way point; but from this point the oarsman is apt to carry on his hands in a straight line, and so draw the button away.

**Press the
button up.**

He should give a thought to the circular movement of the oar, and keep his lateral pressure going, so as to keep the button firmly against the sill of the rowlock all the time he is coming forward. And as he squares the blade when forward and springs back, let him try to push the button up strongly with the lateral pressure, and he will find that he gets a very lively, firm, and true application of the weight. The more one tries to squeeze the button through the rowlock at each end of the stroke, the livelier and more springy will it make his movements, and the more firmly will he be screwed into the machinery.

Through the rigger and rowlock comes the reaction for the movement of the oar. If the oarsman keeps in touch with this mechanism, he will feel the spring of the oar reacting, through the rigger, on itself; the oar simply springs forward without any effort at all.

**Hold the
body taut
and con-
trolled.**

The body has to be held taut in order to supply the lateral pressure, as also to have control over the movements of the limbs generally. The oarsman must keep control over his body; holding his body braced in such a way that if it were pushed out of position it would immediately spring back. But as already mentioned, although the body should be held firmly in position, with no give in it, it must not be held rigid like a piece of cast-iron. An oarsman (or any athlete) should feel like well-tempered steel, but elastic too. All his movements should seem to be on ball-bearings—smooth, oily, and easy—and



**FULL WEIGHT TRANSFERRED TO STRETCHER WITH ARMS
STRAIGHT.**

Ideal position, but must not be got at expense of work.

don't think holding the body taut is understood by one in a hundred oarsmen. From the moment one gets into the boat till one leaves it, the oar should be held controlled and the body taut and truly balanced. If one looks around, one should do so without disturbing one's balance. So many would-be oarsmen sit without feeling for the balance, not recognising the importance of it.

The back
easily
straight.

The back should be as straight as possible, but the oarsman must be sure he is in the best position to handle the oar controlledly at the turn. A straight back is the best position of rest, as the spinal column rests on itself; it is the best position for length, as the body can swing through the longest arc; and it gives the lungs and other organs most room. An oarsman should hold himself *freely* erect; this is an ideal we are all aiming for, but handling the oar at the finish and getting it round the turn is apt to make the back give slightly. On no account must one hold the back stiffly and consciously flat. This rigidity is destructive of all sense of rowing, but it is of frequent occurrence, and coupled with it is often seen a fast dash-away of the hands, entirely lacking rhythm—a fatally flash movement. Though the ideal is a straight back, still, to get it at the expense of hard work is obviously a mistake. One could name many first-class oars who had round backs, because they did not sacrifice applying the full power of the legs to trying to look pretty. Hastie, of the Thames Rowing Club, a very fine oar and judge of rowing, always used to say, “The

more you hoop your back, the harder you shove." Not that Hastie would have said a round back was more ideal than a straight back. It is only a well-jointed oarsman with muscles well developed, from many miles of hard work, who can show a true straight back, and even so, at the moment of impact all good oars drive the back out somewhat. We read in *The Times* in 1924 that Mat Taylor—a very great coach in the 1860 period—always said, "So long as the oarsman gets a good beginning, I don't care what enormities he commits." Hastie and Taylor both no doubt knew and believed in a good style, but style is to be judged by its effect; neither wished an oarsman to let off the work to maintain his appearance. The Pretty-Pretty Brigade try to polish the body and hope the work will come; I say, Never sacrifice the work.

It cannot be too clearly or frequently impressed upon oarsmen that the more one tries to let the muscles be at rest on the forward swing and trust to the run of the boat to bring one forward, the better will be the swing. The action of coming forward can be quite unconsciously performed, just as one does when stooping down to pick anything up off the ground. One just picks it up, never realising that he starts the hands slightly first, he then swings the shoulders down, and then he bends the knees (that is, swings the slide up), and the movements of the hands, body and knees (slide) are all perfectly synchronised. If the oarsman realises that he can make the movements of the hands, body, and knees

Let the boat
run under
you.

correctly, because he has done so hundreds of times during his life, it will give him confidence. It is by confidence alone that one will become a good oarsman (or athlete), and confidence can only follow knowledge. A coach cannot tell his crew too often to rest and float forward. To try to force a crew or an individual to swing out longer, with an effort, is doing harm as well as ruining any chance of getting a true long swing. The forward swing should be an unconscious reaction from the last stroke in order to produce the next stroke.

Don't pull
with the
toe-straps.

The order of movements for the forward swing is : hands first, then body, and then slide. The knees are held flat while the body starts forward. There would come a point where the knees would feel constrained if they were held down any longer ; just before that point one should let the knees rise easily and naturally and let the body swing the slide up. There is a natural tendency in young oars to pull the slide up with the straps ; this is a fault, because it brings the knees up too soon and destroys the natural movement, which is best obtained by thinking of letting the boat run under one.

In spite of
coaching,
toe-hook
comes un-
consciously
as a true
movement.

Professional scullers used to say in the old days, " We hook the boat past us with our toes." I always used to coach that, although professionals advocated the hook with the toes, it was better for the amateur to trust to swing alone, and I thought I was doing this myself. But one day towards the end of my rowing career I noticed that I was drawing with my toes. The

habit had crept in quite unconsciously. My heels were well on the stretcher, but the toes were drawing firmly, using the shin-muscles to control the swing. This is what the beginner is doing in the rough, but it is better to get a well-balanced swing first. In fact, a very good exercise is to row without straps in a tub pair, although it makes the finish a little awkward. Heel-stops should be abolished ; they encourage the wrong idea ; and worst of all is the ring sometimes put on an oar to position the hands.

An important item for consideration is keeping the oar on the balance when the hands are moving away, and the weight applied by the inside hand is moving the handle of the oar forward. This balance should be perfectly even, a level downward pressure all the way forward, holding the blade well in the air. A golfing expression is, "Feel the club-head in your hands" ; and similarly, "Feel the blade in your hands" is a phrase which helps one to get balanced. Another golfing expression is, "Let the club-head lead" ; so let the blade lead when rowing. Although the hands move the oar forward balanced in one plane, the feeling should be as if one were floating out forward balanced on the oar, and the oar drawing one forward.

When there is a call for speeding up the stroke, one must not change one's mental attitude towards the movement. As I have mentioned before, the movements to get forward are very similar to the movements made when picking up anything from the ground. One's objective

Floating behind the oar-handle, balanced.

Never strain to get forward.

mind (or reason) concentrates on the object to be attained, that is, to pick the thing up, and one gives no heed to the body at all. If one had to go in for a competition to do it, he would still merely try to pick the thing up, and let the subjective mind control the movements of the body quite unconsciously. So in swinging forward, if he thinks, "I've got to float forward at rest, and square the blade to grip the water as far forward as I can, spring my hardest, and propel the boat the hardest," the body will move in harmony unconsciously, and it will consequently move the longest and fastest it can. If he thinks, "I have got to try my hardest to swing my body as far forward as possible," the objective mind is trying to do the subjective mind's work and will be acting in opposition to the unknown natural ways the subjective mind has adopted for moving the body. The swing will be hurried and not so truly timed ; and consequently it will be shorter and slower, though the jerkiness will give it a deceptive appearance of length and pace ; and the body will not be in such a good position on the stretcher for the next stroke. The oarsman who swings with the main idea of showing the coach how long he can swing, and the coach who shouts at him to swing the body farther, are both on the wrong track. He should explain how the body swings right out, and then leave it to the oarsman to try to row the stroke as long as possible, and leave the body to function unconsciously.

Don't
worry
about what
you are
doing.

Let the thoughts run on ahead, as when reading aloud. In the latter case the objective mind is making the voice say the words aloud and is, or is not, as the case may be, taking in the sense (for one can read aloud without taking in the sense). All this while the subjective mind is perusing ahead and reading the words farther on and getting them ready to read them aloud. The same thing should take place unconsciously in the oarsman's mind; whilst the body is swinging forward, the objective mind should fix itself on the idea, "I am swinging down forward to spring off the stretcher directly I have squared my blade."

But think ahead.

As he squares the blade, poises, and gathers to spring, he must transfer his thoughts to driving the body right back, and drawing the blade as hard and as far through the water as he can. As he is rowing back he must again transfer his thought ahead: "I must finish the stroke out hard and strike on to the balance." And from the finish, he must carry the thought forward to swinging on to the stretcher again.

Always keep thinking ahead of the work.

The oarsman must have the idea that he has got to get the oar as far forward as he can use his weight with the greatest power, and "every day in every way" he should try to grip the water a little farther behind the rigger, and drive the blade a little farther through the water, and so row longer. He should learn at once that length is an object to try for, but merely reaching out his body as far as he can is not the correct way to get true effective length. Not only has he

Reach to get power and length with life in the stroke.

to row the stroke as long as possible, but also as hard as possible. That is life.

**Life moves
the weight.**

Life must be the leading motive, and length a secondary object, although important. True length depends on life ; as the life improves, so the length improves ; but by coaching for length, the quick application of power may be lost sight of and a dull drag will set in.

**Don't reach
beyond the
strong point.**

There is a limit to the forward reach for effective work. Australians talk about "rowing to the strong point," when they mean coming forward as far as is fitted for rowing the stroke through as hard as possible. That should be the objective of the forward swing. It is no use starting a beginner, at any rate, to try to row as far as he can swing, because his rowing muscles have a lot to learn before they can pick up the stroke from the longest point with the ease necessary to give life to it. In fact, I would say that no one can do himself justice by swinging to his longest point ; one should only swing to the point from which he can use his full power, that is, his strong point. The long point and the strong point would only coincide in a perfect oarsman ; and he has not been born yet. But by rowing to the point from which one can row the stroke with the greatest power, one will keep on finding that the strong point becomes a longer point, as the act of rowing strengthens the rowing muscles and increases the oarsman's sense of timing and controlling his movements.

**Practice
brings the
strong point
near the
long point.**

No machine—and the oarsman is only a human machine—can get 100 per cent of effec-



HALF THROUGH THE STROKE.

tiveness from any movement ; there is a loss at every turn in all machinery. It always seems to me that it is the failure of the average English coach to recognise this fact that makes English rowing on the dull side as a whole. Some few coaches recognise it ; and many crews, as they get near the race, row to the strong point and discard the long point, abandoning the ideal for the practical. In the early stages most English crews row to swing, that is, they try to swing as long as possible ; but as the race approaches they swing to row, that is, they swing to the point they can move the boat most effectively from. Nature takes charge and stops over-reaching.

An oarsman can easily tell if he is over-reaching ; the stroke feels to drag heavily. If he strikes the water at a point where it feels heavy and dead, he is over-reaching. What he should feel is that he is rowing with an easy, springy, elastic movement, and this will get longer by practice, as it conditions the muscles and improves the timing movement. A favourite way of mine of expressing what a well-rowed stroke should feel like, is to say it's like hitting a door ; if one hits the door hard enough, one drives the hand right through and feels no effort, but if one does not drive the hand right through one hurts the hand and feels the blow heavy. So in a boat, if the oarsman springs clean back and times his movements correctly, he does not feel the effort ; that is the length and pace of swing the oarsman should aim for.

Swing to
row best.
Don't over-
reach.

Make it easy
to drive
right
through.

Trust to
smooth, un-
conscious
actions.

Don't have
sand in the
bearings of
the mind.

Be calm
during the
forward
swing.

Elimination of all effort and trusting to unconscious action is everything. Many things tend to the introduction of effort; the main one, and worst, is the coach or cox telling an oarsman that he is doing something wrong. This destroys the oarsman's confidence and makes him worried and anxious; he stiffens up his body and brings wrong muscles into play, and so destroys his timing, and loses his control and balance. Another thing that is likely to make an oarsman anxious and bring in the wrong muscles and generally destroy his rowing is the rolling of the boat, bringing the boat down on his blade and making it difficult to square it. Another thing that sets up tension, hurry, and rush is, when racing, if the other crew gets ahead; the anxiety to win a race is very apt to defeat its object, and make the oarsman rush and scramble. The way to minimise the effect of these and other troubles is to explain thoroughly to the oarsman the necessity of calming his anxieties during the forward swing. This is known in rowing parlance as "the three C's"—Keep Quite Cool; or "the five K's"—Keep Quite Cool, Calm, and Collected.

As an illustration of how even a trained oarsman may become submerged with cumulative anxieties, I remember that, when I was rowing in the Cambridge boat in a 'Varsity Boat Race, Oxford were coming up fast and I realised that something had gone wrong with us. Glancing at the blades, I saw that four was lost. I turned round and said, "Look at your blade

—row it through” ; and away we went and won.

The timing of the stroke is lost by allowing oneself to become flurried and anxious. Every stroke has a keynote depending on the pace at which the boat was propelled by the last stroke, and whether the boat is solidly steady on the one hand, or on the other rolling badly ; whether there is a head wind, a side wind, or a leading wind ; whether it is the right moment to put in an extra hard stroke and induce a quickening from the crew, and so on ; and according to that keynote the oarsmen should regulate the stroke. For instance, if the boat rolls badly, and the oarsman feels he can't find the water, that is the time for him to take a breather, and not to scramble forward with effort to try to get a full stroke. When one feels lost in a rolling boat, one had better stop trying to row a full stroke, and get a rest and be ready for the next stroke ; if it happens that one was the chief culprit in rolling the boat, this control of one's actions steadies the boat. On these occasions I have frequently noticed, by glancing at my blade, that although one gives up trying to row that stroke, one still rows it as well as any. The net result of giving up trying to row the stroke only results in giving up all tension and effort, and, so to speak, the stroke rows itself in consequence. If the oarsman bears in mind that the forward swing works best, with a basis of perfect ease, and if he feels, when things are going wrong, by taking a rest he will restore that

Don't lose
the timing.

ease, and things will come right, then he has a basis of confidence that will always act as a regulator to his rowing.

Hints to the coach on curing faults.

The anxiety of a coach or cox to point out "faults" and tell a man what he is doing wrong often makes the fault worse, because the wretched man is fully conscious of his misbehaviour and is at a loss to find how to mend matters. The better way is to urge him to do the right thing by reminding him of the principle, the neglect of which has led to the fault. For instance, a man may be late at the beginning; and in his case the cause of this fault may be seen to be that he is hurrying his swing and so upsetting his timing. To call out "Three, you are late," or even "Three, you are rushing," will only result in making him hurry more. The better way is to supply the principle needed, and to supply it for the whole crew, not to pick out the individuals for censure. Remind the whole crew of the necessity for taking ample time to finish the stroke out, and letting the boat run under them on the swing forward.

Balancing the boat is every man's job.

Maintaining the balance of the boat is of the utmost importance, and the first thing to teach an oarsman is that the oar is a balancing-pole as well as a propeller. The oarsman must keep the boat balanced by keeping a perfectly even weight on the handle of the oar. It is every man's job to balance the boat; the duty does not rest only upon those who have the boat down on their side; a man can do far more to steady the boat for the other side than for himself.

If the boat has a tendency to be up on one side it is very easy for the oars on that side to bring it down ; but if it has a tendency to come down, it is very hard to get it up level. If it is apt to come up, all that is necessary is to increase the firmness of the pressure on the sill and hold the rigger down ; but if it comes down, one can do nothing ; the other side must not let it come down. Being down makes it hard to clear the water, and very hard to get a hold of the water to row a good stroke, and the men on that side need the help of the men on the other side. The men rowing on each side of the boat are as much co-ordinated in the same machine as the two hands of a man who is sculling. Just as one can help the other side most by holding his own rigger down, and so preventing the boat going down on the other side, so in sculling, if one is in trouble with the left-hand scull, one appeals to the right hand and sees to its control and balancing power.

But a more surprising state of affairs to the young oarsman is that when a boat is down on stroke and six it is frequently down on bow and three. If one puts an eight-oared boat on two stools and gives a quick push down to stroke's rigger, he will notice that bow's rigger goes down at the same time ; it has something to do with the length and shape of the boat. But more surprising still are the cases where stroke complains that the boat is up on him, and six complains that it is down on him. This again is to be explained : stroke, feeling the boat high

A boat may
be down on
both sides.

on him at one part of the stroke, pulls it down, and six, feeling it going too low, pushes it up.

**Eliminate
conflict in
the crew.**

Till a boat gets steady there is a very great amount of fighting for balance going on amongst the crew ; it creeps in quite unconsciously. One man feels it high and pulls it down ; the man next him on the same side feels it low and pats the water and pushes it up ; the men on the other side feel it going up and down, and pull or push it down and up at the same time. In the Thames eight, after the War, stroke and six were probably the two senior oars of the Regatta. One said to me, "It's dreadfully down on me," and the other directly after said, "It's so high on me I can't reach the water" ; no doubt it was up on one and he pulled it down, and then the other pushed it up. With the knowledge of the possibility that this conflict is going on, one may try the corrective that if you feel it down low, pull it down lower, and if you feel it high, push it up higher.

In my later years I have rowed in young college crews, and felt the boat gradually settling more and more down on my side, and to stop the rot I have sliced my oar in and pulled it right down at the finish. This makes the boat come level, the crew give up fighting in their fright. I often think the best way to get a boat level would be to ask the crew to try to roll it as much as they could. It is fear that rolls a boat, and if the crew tried boldly to roll the boat themselves it would eliminate the fear.

**And fear
also.**



HALF-WAY THROUGH STROKE.

Little finger of inside hand still holding oar against thole.

Those who can't swim naturally become alarmed when the boat rolls. But all oarsmen should be told that, even if the boat fills with water, and even goes under, it will only sink a few inches and will always support a non-swimmer.

A boat very frequently rolls down for a time on one side, and then for a few days on the other, and then comes level. Feeling it down on him, an oarsman wants his work raised. Now, the chances are that it is only down at a part of the stroke, and also very likely because he is pulling the boat down. Anyway, if an oarsman asks for his work to be raised, it has often been found to be much more satisfactory to lower it ; this is one of the many anomalies of rowing. If the work is raised, he will probably pull the rigger down more, as he is likely to work his hands and oar more or less in one plane, irrespective of the height of the work. Suppose No. 6 has had his work raised, he will pull the boat down more on stroke and four, and this will push it up on five and three. So altering one man's work is apt to alter four more.

**Don't alter
riggers to
suit fancies.**

This shows the difficulty young oars have to contend with in rowing a boat steady. The best way to overcome the difficulty is by getting all beginners to do a lot of sculling first in skiffs ; they will acquire the sense of balance and watermanship quickest in this way. If possible, it would be best not to allow anyone to row until he could scull a skiff a mile without either scull touching the water. It would mostly come unconsciously, but his subjective mind would

be well educated on balance and watermanship, and the rowing afterwards would be immensely more comfortable and consequently more enjoyable and the boat would go better. The coach's first duty is to get the boat steady, for he will find that the more he teaches the crew to balance, the better will be the rowing.

Let a man
watch the
blade at
times.

The best way to make sure that the stroke is rowed out is to watch the blade and see it is rowed out, especially at first in a tub. After watching it with the eye a few times, take the eye off and concentrate on feeling the blade rowed out; then shut the eyes and feel it. I have found that by getting a beginner to look at his blade, he can very soon make it work correctly, because he times the movement of all his limbs correctly at once, and after an hour in a tub rows a true blade, which is the index of a true body-movement because it shows weight-application. Then get him to feel for it looking away, and then with shut eyes. After that let him look back at his blade when he wants to, and when he is rowing in a way that shows he is feeling for it, ask him which stroke of the last three or four was the best. I find he can always tell you if one was exceptionally well-timed; he will tell you he knows by the feel when they are good and when bad. Then one may feel assured that one has fixed his attention on the blade-work and he knows how to try for a good blade. His subjective mind is busy apportioning the movements to all parts of his body unconsciously, so that the body

Let him
learn by
sight, and
then by
feeling.

will work harmoniously, with the movement of the limbs synchronised to a good timing.

Orthodoxy is particularly severe on "Keeping the eyes in the boat." They would fix every man's eye on the shoulder of the man in front of him. This not only turns the body into cast-iron, but also paralyses the mind, limiting his mental outlook as well as restricting him physically.

Don't glue
his eye to
the man
in front.

The eye serves the mind by supplying information from what it sees. It wants to roam around and tell the mind how the blade looks and what is happening generally. As an illustration, suppose the man is carrying his blade too near the water on the feather and dips his hands to sky it on the turn ; one can put him on to doing the right thing directly by saying, "Look at your blade ; it is going up just before entering the water." He can see what is wanted, and he simply makes the blade do it ; his subjective mind unconsciously works the hands to carry the blade forward in the right plane and to turn it with the correct upward movement of the hands. This means of direct access to his body is closed if one insists on him keeping his "eyes in the boat" glued to the back of the man in front.

As soon as I have got the oarsman to realise what his blade is doing, and how to alter its action, and how to feel for the water, I tell him he has got all he wants to be able to keep on improving, and that he can be his own coach, and the extent of his improvement will depend

Let him
coach him-
self.

entirely upon how much he concentrates on working his blade. Then I chat to him on other subjects, occasionally interjecting, "That's a good stroke," when he rows a good one, and I ask him his opinion as to the merits of a stroke he has made, always getting an intelligent reply. When I have thus transferred the control of his rowing to him, I reckon I have finished coaching that man. If left to himself, his rowing will improve of his own volition ; provided that he keeps his attention concentrated on his blade.

Playing
with water
makes a
good
waterman.

To become a "good waterman," on terms of confident and friendly understanding with that elusive element, one ought to play with water from one's youth. We used to paddle about in Rob Roy canoes a lot at school ; and all that kind of thing teaches one to be handy with an oar or sculls. Oarsmen should not be dissuaded from disporting themselves in all manner of craft, and swimming. Apart from the physical benefit which is to be gained from these exercises, there are valuable lessons to be learned from handling and drawing at the water or even splashing it about.

Just after the War there was an American in the Jesus boat. I could see he was handy, but had not rowed before. He raced a very powerful oar indeed. He told me he had done a lot of Rob Roy paddling ; and I noted an expression he used which I took as an index of his mental attitude towards water. When tubbing him one day to cure him of rowing deep, I asked him how he got on in the light eight. He replied :

"I found it much easier to scoop shallow in the shell." Needless to say, he did not actually "scoop" water into the air ; but for him to describe in that way the sensation of rowing in the correct plane showed that he sensed the blade with water in it.

Incidentally, I may recount a case where scooping water was actually a good thing. Rowing in my first May term, the crew behind us were coming up rapidly and looked as if it were going to bump us ; their bow was about ten feet away from my blade and exactly behind it. I rowed my blade a bit lighter at the finish and threw water at the bows of their boat, without affecting the balance of our boat. The wash struck their boat hard, and even broke on bow's back ; and the result was that their boat was washed off and we got away.

Furthermore, every man in our boat saw the incident ; and if the eyes of our crew were glued anywhere it was on the other boat.

Everybody ought to start by sculling. At Eton the young boys start in this way and also row in heavy pairs in their first year ; and later get into their junior pairs. By sculling they acquire a watermanship which puts them a long way ahead of the ordinary undergraduate at Cambridge, when they come up. Many a 'Varsity oar has not half the watermanship of an Eton freshman.. The Jesus crew that eventually beat the Belgians used to scull to Clayhythe (five miles) before breakfast and were back for their nine-o'clock lecture.

Men should
begin by
sculling.

Scullers when beginning would be well advised to pick a big whiff and stick to it till they are absolutely masters of it. Most young scullers get into a light racing sculling-boat far too soon, and tumble about in it and do no good ; whereas if they had stuck to the whiff for a couple of months longer and got full control, they would have been masters of the whiff and would have improved much faster in a best boat. So let young oarsmen stick to a whiff as long as they can, and not hurry off into a best boat.

**Taking it
easy to start
with.**

When the young oarsman goes out in a whiff, if an absolute beginner, let him get pushed off and sit with the blades of the two sculls flat on the water, and be sure and keep his hands close together. If he keeps his hands close together, he cannot fall out. He must be careful not to scare his subjective mind. Let him square one blade and row a very wee stroke and flatten the blade at once and sit quiet and remember to keep the hands together ; then a wee stroke with the other blade, then flatten blade and hands together. Repeat this for quite a time. Then take a very wee stroke with both sculls, again put the blades flat and hands together. If any rolling takes place, at once flatten the blades and bring the hands together. After a time try a little longer with one scull, the other resting on the water ; then the other scull ; and then the two for a few strokes, but keep very short. I have so often seen a beginner start sculling very short at first, but after a few strokes try one longer and go straight out into

the water. At the slightest feeling of insecurity bring the hands together and sit still. Go very short for some time, and work at the "lift-lower" exercises with the sculls, and try to scull a few strokes with blades off the water. Let him keep on trying to balance the blades in the air and he will improve fast. Then he can gradually let himself out a bit longer, and if he sticks to this in a few days he will be quite comfortable.

Then let him work for paddling without slobbering on the water, balancing the blades in the air ; and let him keep at that till he can scull a mile without touching the water on the feather. Let him work to roll the blades square, then run the slide, and then hit the water. Then let him scull all the miles he can ; practising balancing the blades in the air ; sitting back after one stroke with the blades balanced in the air ; poising forward, and rowing one stroke to the poise forward, blades squared ; sculling with arms bent, and sculling without bending the arms, and continuously putting away the miles.

Until he
learns the
ways of the
boat.

Then go
for long
paddles.

Mileage makes champions. In sculling and rowing, long paddles are the most beneficial to weld a sculler or crew together. Scarle, champion sculler of the world, had a heavy boat to scull to school daily and home across several miles of water. He was one of the finest scullers the world ever saw, and many say the finest ; I never saw him, but the best judges of rowing told me that when he gave the boat a dozen "white 'uns," as they called

the swirls he made with his blades, it was a marvellous sight to see the boat go. He went to Brisbane to scull a race and was out for a very long time his first day. When he returned, he was asked how far he had been, and he replied, "I eased first time under the second bridge." "The second bridge," said someone—"that is seventeen miles." "Yes, it would be about that," he replied.

Everyone
should take
up rowing
as an exer-
cise.

Rowing is the finest pastime in the world. It makes the individual sink self for side entirely. It can be carried on in all weathers, and the exact amount of exercise can be regulated to suit requirements. It induces health even more than any other game. It necessitates the individual keeping in good health and avoiding indulgences and excesses of good living, and the regular hours of early to bed and early to rise in training help a man in his reading career. At the 'Varsities all men can get into some sort of boat, as the number of boats in a college can always be expanded according to the number wishing to row. If a few are left over and would devote the term to sculling, they would be sure of improving and getting a place in a crew next term. One does not need to win a race to get enjoyment. I like to see crews I coach rowing on to the last stroke gamely when behind, and getting out of the boat saying the boat went well. That is the test of good rowing. Every good outing is a joy, and every good stroke rowed is a pleasure in itself.

The beginner rarely, if ever, realises how he



THAMES GRAND CREW, 1924.

can improve by concentration and trying to do better every stroke. Every stroke he rows carefully will lead to a better one later on. At first he thinks that if he is passing the trees the boat is going faster than any one ever rowed a boat before ; he little realises the heights to which he can rise in the higher class of rowing, and the glorious feeling that comes from a well-rowed stroke. From the passing-the-trees stage he gets to rowing a stroke occasionally without the boat rolling. As he improves, new and unsuspected ideas come into play, till at last he feels that he is stretching to the utmost forward and gripping the water far behind the "rigger" as he compresses on the stretcher, and gathering himself whilst squaring the blade, strikes the water with one glorious spring, and puts his full weight into propelling the boat.

The whole sensation is one of joy and exhilaration ; it is a nerve tonic which braces the whole system ; and nobody who has experienced it would regret the pains which he had to take to ascend to the higher plane of first-class rowing ; and he would not sell his experience for much gold.

The
pastime
repays one
hand-
somely.

When a Chinaman heard that it cost the Universities £3,000 to run the 'Varsity Boat Race, he offered to get 16 Chinamen to do it for £300. But the offer was not accepted.

COACHING

**There are
no fixed
rules for
coaching.**

I HAVE before my mind the picture of a beginner who has to be taught the rudiments of rowing, but subsequently gets into a crew and ultimately makes a first-class oarsman. It would be a reversal of the natural sequence to start instruction with a description of the style of a finished oarsman and to tell the novice to make himself look like that. That is what I mean by "coaching for body-form"; it cultivates a "slave-mentality" instead of the master-mind that the finished oarsman must possess. To develop that master-mind, one must coach for brain-and-blade work from the start.

**Coach the
man to
coach him-
self.**

The first rule in coaching is that the education of an oarsman should never become stereotyped; the coach ought to watch his man and see what remarks and suggestions open his mind to accepting the right idea and putting it into practice. One wants to coach a man to coach himself—to show him what is to be done and let him do it, and go on doing it better by trying, and doing it best on the day of the race when the coach fades into the background and the crew have to see it through on their own.

The psychological aspect of the problem is frequently presented to the coach who throws his own mind into the task of guiding the oarsman's mind, and I have found it useful to adopt a conception of the machinery of the mind and body which affords a simple explanation of what appears to happen when a man tries to do anything ; and it struck me when I read Hudson's *Psychic Phenomena*, describing the supposed interaction of the " objective " and " subjective " minds—the one (the conscious reasoning power) having authority to direct the other (the body's unconscious mind) towards the objective, the latter, however, being fully competent to work the body instinctively in the best natural manner—that my coaching was on similar lines. I know, by experience in handling oarsmen, that some such phenomenon actually occurs and that the best results are obtained when the oarsman is led to concentrate his reasoning upon the object desired and to trust his natural instinct and habit to move his body in the best way to attain that object.

When I was a boy at school I used to help other boys to do gymnastic exercises. I began by explaining the position of the body ; but I found that the more I harped on that, the less result in getting the boy to do the exercise ; and I came to the conclusion that the best way to teach anyone to do a gymnastic feat was to fix his mind directly on the exercise and let him forget all about his body. Then, as the psychologist would say, the objective mind concentrated

Psychology
is useful.

consciously on the object and the subjective mind operated the limbs unconsciously. Anyway, I found, by this method, I could teach a boy to do gymnastic exercises in almost no time. By urging him simply to try to do the exercise he would very soon do it, though the limbs would wriggle and kick until they unconsciously adopted a movement of ease and grace.

**Mathe-
matics and
physiology
don't help
much.**

One does not want to load the oarsman's mind with arguments on the dubious mathematical explanations of how he applies his work, and with thoughts of his bare skeleton or naked muscles ; it is not necessary for an athlete to think about these things or to know how his muscles work beneath his skin, or to imagine what he would look like doing his "stunt" with his skin taken off.

**The long
way is the
wrong way
to learn.**

Directing the man's conscious mind towards his body and making him think actively of how he should posture himself is not only a long way to get him to do the thing required, but it is the wrong way, because, even if one studies a text-book, one must necessarily have a very crude idea of the machinery of the body and how the subjective mind gets it to work properly.

One wants to win ; not to produce the most showy oarsmen. "Handsome is as handsome does." Showiness is not always evidence of usefulness. If one sees eight men carrying a coffin, four of them with backs bent under the load, and the other four turning their toes out like dancing-masters—one knows who is carrying the coffin.

Fixed-seat rowing is the orthodox manner of beginning an oarsman's education, because it produces the stylish body-work which that school thinks to be necessary on a slide. And the orthodox sliding-seat style is a reproduction of the history of its development—it begins with a fixed-seat body-catch and adds the slide later.

Fixed-seat
rowing is
the long
way.

The difference between sliding- and fixed-seat rowing is, on a slide that part of the body sitting on the seat is moved when sliding. This is the heaviest part of the body, and to learn to use this extra weight is most valuable. To do this one must begin on a slide, as there is a different action in the movement of the limbs to their movement on a fixed seat. The argument in favour of a fixed seat is that it teaches the beginner to swing. If by this is meant an increase in his length of swing, I am sure it does not, as I measured the length beginners could swing one term, and found that at the end of the term their swing was absolutely the same. Can anyone say he has measured and found fixed seats increase beginners' length of swing? If by "teaching to swing" is meant moving the body harmoniously, it is better to begin on a slide, because the movements have to be synchronised differently from a fixed seat.

Fixed seats, with the attendant miseries produced by raws, are an abomination and should be done away with. Raws are produced by the friction set up by leg-work making the oarsman move on the seat; after a time the skin is rubbed off; the place becomes inflamed and

And the
painful way.

very painful at night, keeping the oarsman awake ; each night the raw scabs over ; but on starting to row next day the scabs are broken during the first few strokes—an exquisitely painful process. The most willing oars get the worst raws, because they use the legs most and are starting most correctly to climb the rowing-tree ; frequently these raws become so painful that rowing is abandoned, and every year the 'Varsities lose many of their most promising oars. In any case, one wants to make rowing pleasant ; one does not want to have men eating their breakfast off the mantelpiece.

Thames
clubs begin
with slide-
work.

It is chiefly at the Universities that the fixed-seat is maintained as the basis of training. Thames-side Clubs, as a rule, have no time to dally with ancient methods of rowing ; they get their men straight on to slides. The superiority of this method of education is apparent when one considers the successes which those clubs gain, in spite of the difficulties with which they have to contend. Their men do not get anything like the time for practice that is available for men at the colleges ; their men sit in offices all day and get on the river only at seven in the evening ; their racing season begins with Marlow (just before Henley) and continues for another three weeks ; they have no winter rowing except Saturdays and Sundays ; and they have to curtail practice in the "lean times" when the water is too rough or so high that the wash of passing steamers rebounds continually from the retaining walls.

It seems natural that the more sliding-seat rowing one can get, the better. But the majority of oarsmen at the Universities have to content themselves with fixed-seat work for the October and Lent terms. Even for those who get into their "Mays," there is only a period of four or five weeks of the May term for sliding-seat rowing. The Universities would do well to abolish the fixed-seat racing or, if they will not go for long slides at once, to allow of 6-inch slides as a substitute for fixed-seats.

And the Universities could do with more of it.

A "raw beginner" is a term which may be applied to a promising novice without necessarily suggesting the application of vaseline anywhere. In writing these Notes, I have assumed from the start that the coach will put his beginners on slides without passing them through the fixed-seat ordeals. But sliding is merely the prolongation of swing, and these Notes apply with equal force to fixed-seat rowing.

Raw beginners.

I assume the coach will take the novice through a course of instruction somewhat on the lines which I have shaped in the foregoing part of this book. I don't want to repeat the points which have already been stated—they can get sufficient repetition by re-reading the Notes; all I want to do is to offer a few suggestions which may bring out those points in a new light.

Thinking things over is not only good for the men, but good for the coach. I have already remarked upon the benefit to be derived from getting the crew together, indoors or outdoors, and discussing the subject of rowing and

Talking "shop."

framing a mental attitude ready for work in the boat. And I suggest that discussions such as these should occur throughout the period of training.

I have written these Notes somewhat after the style of the hundreds of long rowing chats I have had with Hockin, Hastie, Baillie, Prest, Gurdon, and many others, from whom I gathered my ideas, and with the many Jesus and Thames men and others whom I have coached. These rowing chats were most enjoyable, and to get crews to talk over the theory of rowing at afternoon tea and at other times is most educational for them. I never could understand barring "shop"; if you do a thing, you should do it because you like it; and if you like it, why not talk about it?

**Illustrative
physical
exercises.**

In this connection much can be done indoors with the help of extemporised rowing-machines. A mere box on the floor with slide and stretcher, and a rigger attached, would be sufficient for the purpose of illustrating positions and actions. The work of the oar can be represented by a weight which is to be pushed along the floor by the oar (or whatever portion of the oar one can find room for), or one may attach the end of the oar to a rope which lifts a weight over a pulley.

**Fixed-tub
practice.**

A fixed tub, or tank, or other rowing-machine, with an oar working in water, would be the next step in the education of the oarsman. Here he can learn the new lesson of feeling water at the end of the oar and pressing his weight against it. All these exercises have the further object of



NEARLY FORWARD, BLADE TURNING SQUARE.

Note the shoulder reach and flat outside wrist.

getting the men into condition and developing the muscles that are needed for rowing. Weight-lifting is also useful, provided that the "slow-shove" method is not practised. Get a 40-lb. or 56-lb. weight ; plant the feet near it as one would put the feet on a stretcher ; bend down, take hold of the weight, tighten the muscles, and—with a hitting beginning and long draw—flick the weight up into the air overhead. It must all be done absolutely without effort.

Weight-lifting.

Tubbing practice—taking two men for a short row in a heavy pair-oar—should be started at the first opportunity. I would suggest that the tub be rowed forward and back in short pieces near to men who are awaiting their turn, so that they may listen to the explanations given by the coach and take example from the efforts of others. This first outing upon the water should be taken as an opportunity for explaining the elements of balance, showing how a boat can be rocked from side to side by raising and depressing the oars. Let them "lift," "lower," and "waggle" the boat to order and see how they are masters of the boat. For "lift," "lower," and "waggle" exercises, see pages 78–82. It is advisable that the oarsmen also should learn, at the outset, how to "hold-her-up" and "back-her-down," so that they can respond to these calls automatically in an emergency and save a crash, and backing gives a young oarsman a big lift in watermanship.

Tub-pair work.

I always begin tubbing by getting men to row singly—one man sitting still with his oar on the

feather and held steady, while the other man rows alone, with the coach holding the rudder against him. The advantage of a man rowing alone in this way is that he gets the water very solid to pull at and minor troubles are eliminated from his mind while he learns to work his blade. The coach can do a lot with the rudder, when holding it against a man ; he can put the pressure on at different parts of the stroke and let the man feel the water more solid at the beginning, the middle, or the finish of the stroke, and learn that the water is always there to shove at.

Changing
sides.

It is advisable to change oarsmen from one side of the boat to the other, on alternate days. Being able to row on either side is very necessary in order to prevent any oarsman from getting lop-sided, and to double his usefulness as well as his chances of getting into a crew. Many a man has lost his Blue from being one-sided, with only one hand that has learnt the intricacies of the finish.

Rowing
badly to see
the
difference.

A man can be taught a lot by being made to row in a wrong way, as an illustration of how not to do it : slicing his blade in and seeing how that action pulls his rigger down, rowing too shallow, and making his blade misbehave in other ways.

But a detailed explanation of how to coach would be fruitless. It is a matter which must be left to the ingenuity of the instructor. He knows the "points" of rowing for which he is aiming, and the manner in which he explains these to the pupil depends upon the personality and adaptability of the latter more than upon rules.

The underlying principles of rowing are the same as in all athletics—namely, timing, control, balance, and touch. **The true principles**

Timing can only be got by taking time ; hurrying is fatal. “Square the blade, and poise,” is the way to get the beginning properly timed, and to get in quickest. “Sit back” is the way to get the finish timed and to get on to the next stroke quickest. **Timing.**

The mind is apt to move quicker than the muscles, and to think the blade is square and the body gathered ready to strike before it is, and to think the stroke is finished out before it is. If the beginning is hurried, the blade is rowed into the water with a slice and runs to the bottom of the river, ruining the stroke ; if the weight is taken off before the finish and the body started forward before the hands are clear, again the stroke is ruined. So the oarsman must be reminded to give himself time, especially at the two turns ; he should poise till he is certain he is ready to strike the water at one end, and sit back until he is sure the stroke is finished out at the other end, taking due time to square the blade at one end, and start it on to the feather before the body starts forward at the other end. In other words, let the blade lead.

Control means keeping the body braced firmly, that is, taut, all the time, holding it on the balance so that if pushed sideways it would spring back, keeping a lateral pressure on the oar so that the button is pressing against the rowlock all the time and if pulled away it would **Control**

spring back, and maintaining the blade at its proper level. It is merely necessary to hold the command over the subjective mind, which knows how to do all this, of itself, if kept at "attention." That command follows naturally from keeping the objective mind concentrated on the work to be done, and thinking always ahead of the work.

Oarsmen should realise from the outset that they must always sit controlled; they must not allow their bodies to flop about even when the boat is eased and the coach is giving instructions. They should acquire the habit of taking rest in a position of control, not by flinging the oar away and leaning one hand on the side of the boat. One can sit upright easily in a position of rest, and no exertion is needed for holding the oar controlled at all times. To keep one's body under control and the boat properly balanced is a duty which one owes towards the rest of the crew.

Balance.

Balance means keeping the boat on the point of balance, and this is done by keeping an even and controlled weight on the handle of the oar, feeling the blade balanced in the air on the sill of the rowlock evenly all through the forward swing. I have heard professional scullers say, "When I am going well through the rough water, I like to feel that I can open my hands." This is a very good exercise: to open the hands and let the weight rest on the handle and float forward balanced ready to grip and turn to strike the water.

Actively balancing the boat at the slightest sign of any instability is done by varying the weight on the handle, instinctively. The intention should be, "I am not going to touch the water coming forward if I can help it, and I am not going to let my rowlock rise if I can help it." Bill Beach, who was the finest sculler I ever saw, sat very high in his boat and his sculls soared into the air ; one might be inclined to say that they moved round like the sails of a windmill, and he seemed to flail the water, so that he looked like a paddle-steamer coming along. There has always been a feeling against skying the blade, but I like the blade-skyer : he is balancing his oar on the sill without doubt ; he isn't afraid to leave the water alone, and he must have struck sharply on to the balance, which means life with a true light hand. Of course, I am not giving approval to the practice of skying the blade just before turning it square after slithering along, for that shows an entire lack of balance. But the higher the blade is struck on the balance, the more the hands control the oar, and the firmer the strike from the balance will be when the oar takes the water at the beginning of the next stroke. The strike from the balance is a reaction to the strike on to the balance ; a high blade means a true springy strike on to the balance, a well-controlled and balanced oar, and a correspondingly true strike from the balance.

Touch means delicacy and cleverness in doing **Touch.** every act. It can vary very much, and one should

always try to do every act more delicately, more gracefully, more smoothly and elastically. One wants "good hands" to control a boat, a horse, or an aeroplane. The lighter and more delicate the "hands," the better the touch. Gripping an oar, a golf-club, a cricket-bat, or a tennis-racquet with the fingers delicately gives a good touch ; and gripping fiercely in the palm of the hand gives a bad touch. The delicacy of touch to be aimed at should be such that the hardest beginning is entirely controlled, and there should be brains in the blade throughout the stroke. •

Repeating
the points.

My experience is that it is necessary to repeat the main points frequently, but to keep on varying the expressions and metaphors until one or another flashes the true picture on the mind of the oarsman. He does not take it in from being told once or from one reading. One must keep on hammering at the main points, but must not make the hammer lifeless by turning a phrase into a parrot-cry ; one must vary the cry as much as possible and keep the oarsman thinking actively. I have frequently had an oarsman tell me that he had only just tumbled to what I had been telling him, or the crew, for months.

Truth
always
necessary,
but don't
pillory
offenders.

Pick the weak point of a crew rather than an individual. Work round on this point in many different ways and make it the main point for several days. As the point strengthens in the crew, it will be apt to strengthen more in those of the crew that are weakest ; and as one point improves, others will improve also. The only time to speak to an individual is when he shows

improvement, then tell him he is improving ; but never tell him he is improving if he isn't, in the hopes of his acting accordingly : the first principle is always to be absolutely truthful.

I believe in letting men alone as much as possible when rowing in an eight, because the more leisure they have for picking up the sense and timing of the crew, the more the stroke will develop into an eight-man drive. When in doubt as to what to say to a man, or whether anything need be said—say nothing.

Saying
nothing is
often best.

Making individuals in a crew worry about themselves is putting grains of sand in the bearings. Smoothness in the machinery gets more power out of team-work, and it comes naturally by letting the machine work without interruption.

Let it all
come easily
and naturally.

The hall-mark of a crew is the forward swing. The proficiency of the swing is exactly in the inverse ratio to that in which it catches the eye, for what catches the eye is not motion but the checking of motion after a jerky action. The easier and lazier the swing looks, the faster and truer it is. When the controversy was going on about the Belgian and Jesus crews being shorter than the other English crews, these other crews had the "lively recovery" as a basis of movement. The jerk and stop were what attracted the eye and gave the impression of length. The Belgian and Jesus crews were even in their movements, swinging the slide up so smoothly that there was nothing to catch the eye.

The eye being deceived by jerky motion

reminds me that at the end of a term at Sandhurst, when the lads were going home, my chauffeur said to me, "Four of the Sandhurst boys have hired that car as a ninety horse-power car to take them to London." "But that isn't a ninety horse-power car," I said. "No," he replied; "but it has a very noisy exhaust, and they will think it is." So a rowing-style with a noisy exhaust seems to be doing more than it really is. The work of an oarsman with a perfect action would seem to be done by invisible means in a Rolls-Royce style.

The first outing in an eight.

The first outing in an eight should be as early as possible in the schedule of training.

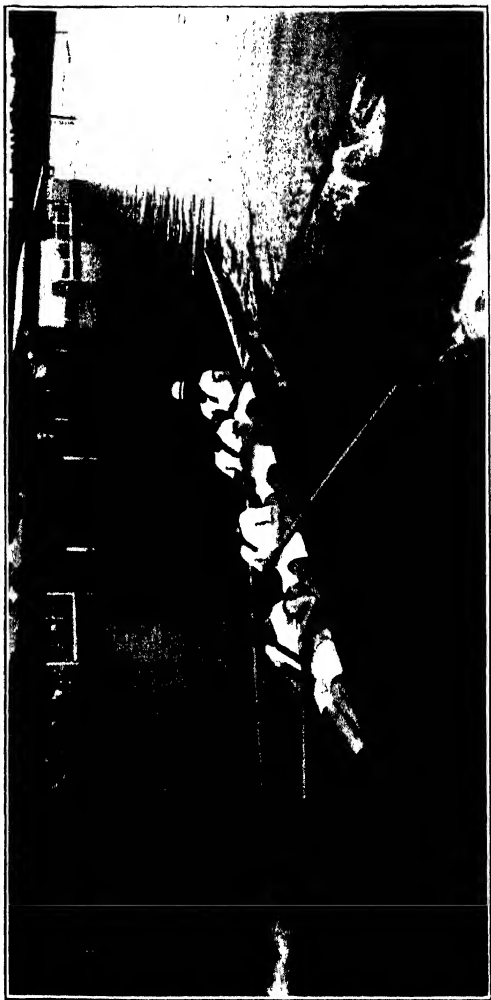
Boat-drill.

A crew of beginners will need some drilling in the practice of launching an eight, from lifting the boat off the racks to putting her in the water. The occasion should be made the opportunity for repeating the point that good handling of a boat shows good oarsmanship. Each man should show, by his manner of taking his place and doing his part on the word of command, that his services are at the disposal of the crew and that his team-sense is developed.

Cox stands by and takes charge of the operations after the coach has given the crew a day's instruction.

Lifting the boat down from the racks.

The crew have to lift the boat down from the racks before they can get on each side of her, but each man must stand alongside ready to take his place. I think the best practice is for each man to be on the side of his own rigger and close by it, whichever way the boat is up,



SELWYN WYFOLD FOUR, HENLEY, 1925.

so that he may watch his rigger and prevent it being injured by a knock when the boat is carried out. For example, if the boat is on the racks bottom-upwards with the stroke-side riggers outside, the stroke-side men will get against their riggers and bow-side stand opposite theirs. Every man puts a hand across, under the boat, and all lift her together on the word of command. When she is turned over, at a word of command, stroke-side go under and follow their riggers.

The boat is carried to the water and swung **Launching.** round ready to be put in. The side farthest from the water holds the boat ; cox gives the word, "Hands across stroke-side" (or bow-side, as the case may be) ; this side should hold the far riggers high up and let the boat rest on their thighs whilst the other side get under. Then all grip the boat with one hand across, holding the far side of the boat well up ; and lower the boat into the water, taking care not to let the riggers touch the water.

Directly the boat is launched, the cox should **Manning.** hold the aftermost rigger on the shore-side, while the crew get their oars and put them in the rowlocks. Then the cox should get the crew to step in with one foot and take hold of the sides of the boat at the word "Step," and at the word "In" push the boat off, sit down, and take a controlling hold of their oars. This is much quicker and better for the boat than the orthodox way, two at a time, which is slow and apt to strain the boat ; boat-builders tell me that getting the crew all in together is best for the

Getting out
again.

boat, if there is room for this on the foreshore. The men should pay close attention to the etiquette of getting into the boat, putting a foot on the kelson and hands on the sides, pushing off with the foot on the bank, sitting down and taking charge of the oar. The cox steps in with the crew. A boat launched and manned smartly has a crew in the right humour to row her.

Lifting the
boat from
the water.

So also, when returning from a spin, the crew should observe a settled practice in getting out of the boat on the word of command. The cox should jump out and hold the nearest rigger and say, "Oars out," and then "In time with stroke-out," or by calling numbers as the practice may be.

The eight
afloat.

Elements of
balance.

To lift the boat out of the water, the crew stand to their places, take hold with one hand on the far side of the boat and, at the word "Lift," lift the outer side upwards smartly, carrying the boat overhead and turning it upside-down, those in charge of the outside riggers stepping back as their riggers come down to them, while the other side step under the boat and follow their riggers. Then the boat is lowered, each side holding the sax-board, and carried carefully back to the boat-house.

With an eight of novices afloat for the first time, the first thing to do will be to deliver a knock-out blow to that boggy of fear that makes a boat roll. The crew should first be given the exercise of "Lift-lower"; at the word "Lift," all flick the blades into the air by a lively down-

ward movement of the hands ; then at the word " Lower," all lower the blades smartly and controlledly—no drop—on to the water. This is the best exercise that I know of for teaching balance. It is very similar to changing the balance of the oar at the finish and beginning of the stroke, which I designate "striking on to the balance," and "striking from the balance." These are the two most important moves to learn in balance ; in fact, they are the whole of balance. A crew that can do the "lift-lower" exercise properly will never let a boat roll. At first, at the word "Lift" the oars of one side will very likely remain on the water. The coach should just give "Lower," and let the other oars be restored to the water. Then "Lift" again, and the oars that were left in the water will be flicked up quicker. Possibly the other side may be left on the water : they will flick quicker next time. Keep on giving "Lift-lower" smartly, and very soon there will be a perfectly balanced action.

The coach should then explain to the crew that, at the finish, they have got to strike the blade up balanced into the air with absolutely the same movement as the "Lift," and row it into the water with absolutely the same movement as the "Lower." At the same time as the balance of the oar is being transferred from sill to thole and thole to sill, the oar is also being turned from the horizontal to the vertical and back. Having given the "Lift-lower" with flat blades till the crew can do the exercise

and keep the boat perfectly level, the coach can then let the crew square the blades at "Lift" and place them firmly against the thole ready to row; and here let him explain that each man must be sure that as he squares the blade he makes firm contact with the lower part of the loom of the oar and the thole, and he is so holding his oar that as he rows it into the water and throughout the stroke nothing will stop him from keeping contact between the bottom part of the loom and the thole. If the oarsman can hold his oar firmly controlled with this contact, he will apply his full weight to propelling the boat with the blade rowing in the true plane just covered, and he will do nothing towards rolling the boat. Then at the "Lower" let him lower and turn the blade horizontal, holding it controlled with only the forward part of the loom touching the sill. Let the coach repeat this exercise frequently. When all the crew can do this properly, they will have learnt all there is in balance and control. A crew taught to handle its oars like this at first will be perfectly founded and will find rowing easy.

After the "Lift-lower" has been given, the coach should give the crew the "Waggle." This consists of at the word "One" stroke-side raise and bow-side lower their hands as fast and as far as possible; at the word "Two" reverse. Then give "One," "Two," frequently, and at the word "Three" let them come to the balance level.

The coach should notice that the crew are

now sitting holding bodies and oars properly controlled, and he should point out to the crew that they must always sit like that, with bodies taut and oars held firmly controlled. He should also point out how the boat moves to the slightest movements of the hands, and consequently how, if the oarsman rows his oar in one plane, the boat can't roll. Then he should give the "Waggle" again, and when back to the control, he should give the order, "Hold her firm ; I am going to ask the cox to try to roll the boat." Then he should ask the cox to waggle his body from side to side and try to roll the boat, and the crew will then see how they can hold the boat firm. Then let the coach ask each man to try to roll the boat in turn, the others holding her firm, and they will learn a lot. Then a dose of "Lift-lower," then "Waggle," then each man try to roll the boat in turn. An hour of these exercises, and I doubt if the boat would ever roll again.

After these exercises the coach should teach the crew to back-water. It cannot be impressed too much on coach and crew how important these exercises are. I have found them wonderfully beneficial to young crews. They are learning balance and control in an hour that they would not learn in a hundred miles of rowing. I have taught a good many people to drive a motor-car similarly. In an hour one can give them more changing of gears than one gets driving a car from London to Scotland, thus : First start the engine, then get the beginner, with

gear in neutral, to push out the clutch. Then let him play with the accelerator, increasing and diminishing frequently. Then into first speed. Let the clutch in gently and increase acceleration, and instantly the car begins to move ; clutch out, in, out, in, out, and then come to neutral, then to reverse, clutch in and out frequently, back to first—go a little farther into second, back to first, second, first, reverse—then up to third, then back. One does not want more than 200 yards of road, and by continually ringing the changes, in an hour he has a beginner quite expert.

After the “Lift, Lower, and Waggle,” let each man row a few strokes by himself, with easy, lively confidence, the remainder holding the boat level and controlled, keeping their oars and body out of the way of the man rowing. Then get the stern four to come forward and square their blades balanced in the air ready to row ; and at the word, row one stroke to the finish, bringing the blades on to the balance and sitting back with the hands moved away slightly. Having left them sitting back for a few seconds, say, “I want you to come forward and square your blades and poise ready to strike.” “Come forward.” “Steadily.” “At the word ‘Row,’ row to the finish and stop. Now—‘Row,’” This may be repeated half a dozen times. Then the bow four take their turn ; then the stern six ; then try the eight with a dozen strokes. Then the coach should explain the back-watering. The crew can each in their turn be shown how



COMING FORWARD, STARTING TO SQUARE THE BLADE.

Note action of inside hand, how thumb and little finger turn the oar weight on seat.

to square the blades and back-water. Then the coach should show how to stop a boat. He must explain how the oar has got to be sliced in and gradually turned square ; how if it is done too quickly the fast-moving boat will drive the oar into the oarsman and knock him over ; how he must put the oar in with only a slight slice and gradually turn the blade square, being always ready to turn it flat if the run of the boat overpowers one.

Steadily turning the blade square, the oarsman should push back just as he stops the boat—then let the crew row on a few strokes, and as the coach calls out “Hold her,” turn the blades and push back. Then “Paddle on” and then “Hold her hard,” and the crew act quicker. This will make the crew clever quicker than anything else. If possible, let them all go sculling in whiffs and practise all those movements, and specially let them practise “Hold her hard,” so that from sculling forward they can check the boat and have her moving back in one stroke. Amateur crews never get any of these drills, but they cannot be overdone.

The next thing for the coach to teach is “Paddling light,” “Paddling firm,” and “Rowing.” Changing into these three speeds is like changing gears in a motor-car and gives the oarsmen control over bodies and oars.

Getting every man to learn how to “paddle **Paddling light.** light” is the most essential of all. By paddling light I do not mean rowing the blade so that half of it is visible ; I mean, drawing it through

with less pressure. We are up against Orthodoxy here, of course. They say the blade should not come through the water ; that one should not push the water past the boat ; and that the blade should be stuck in hard and the boat pulled past the water. We need not trouble about that controversy ; it is sufficient to show that their view-point is wrong by asking why they don't have blades three feet broad, so that they will not come through the water at all ? Why do they cut the blade down, even to $5\frac{1}{2}$ inches, to get better rowing ? Why, because the blade must come through the water to ease the strain on the oarsman. There must be a quick catch, but one does not want eight corpses in the boat. The fact is that the blades do come through the water ; and we find that 6-inch blades just covered come through easily enough. They come through slower, when we paddle light. They come through faster when we stretch out and row. One does not plunge the blade deeper to row any more than one screws on a bit extra to the breadth. The blade is always brought through at the same depth—just covered ; one only lessens the power when paddling light. When rowing, the power is harder and consequently the stroke quickens and lengthens with the increase of life.

**Changing
gears.**

Paddling light, firm, and rowing should be much the same as getting into first, second, and third gears. The coach should give the crew the variations of length for paddling light, firm, and rowing, laying special stress on making the

blade cut truly on the light paddle. Ring the changes from paddle light to firm, and to row, and drop to light and up to row, letting them row ten strokes, and give them twenty strokes rowing as the last piece before an easy. Next day row a couple of pieces with arms bent all the time and with arms straight all the time. And also give the crew some rowing coming forward with the outside hand off ; but a tubbing for these before the eight goes out will be necessary.

It is better not to tub every day, especially if they are using the fixed tub. Tub about twice a week in long spells and give them a new exercise each time. And the men should be encouraged to learn sculling in off times or whilst waiting for their turn at tubbing.

Of course, it is impossible to lay down rules as to how much work should be given to a crew ; everything depends upon the circumstances, and the coach must frame his schedule according to the time available and the previous methods of the Club. The only rule that one might suggest is that "mileage makes champions," and long paddles are best for making men get together, sink their differences, and overcome their troubles without checking the even run of the boat. The Thames crews go from Putney to Richmond in two pieces, have tea with W. G. East, and paddle back in one piece, just "leaning back against the rowing-pins" at 25 or 26 strokes to the minute, quickening up to 30 now and again. And they get out of the boat, saying they have enjoyed the outing.

Never let the men down.

A coach should be absolutely reliable in his promises as to when the crew will be given an "easy." When a point has been set them for the end of their spin, and the men honestly "row themselves out" for that point, they must stop there. To carry them on unexpectedly in the belief that they should be trained to respond to a call after they are exhausted, results merely in their reserving themselves and not rowing themselves out for the finish, because they can never trust the coach again. There can hardly be any question as to the necessity for the coach to be absolutely truthful and open in his statements and thoughts, for the close mental contact between himself and his pupils gives the latter an intuitive knowledge of what lies in the mind of the former. A crew can see through whatever is said.

Placing the crew.

Stroke and the rest.

Choosing the crew—assigning their places in the boat—should of course be done as early as possible. In the choice of a stroke, I should say that, given the requisite pluck and soundness of body, the man to choose for the stroke of an eight is the one who will get a smooth, regular, and lively stroke in the nearest approach to style that can be hoped for under the circumstances. Other good qualities will look well in him, but perhaps the chief requisite is that he should be always thinking of his crew and rowing for them to get the best out of them. He should be able to set the stroke according to the keynote, which varies every stroke ; there should be a thoughtful look in his eyes as if he had his ears set back

listening for the sounds of the work behind him and sensing the tremors of the boat whereby the craft sends messages of what is being done by each man.

The first essential is that each man must be the best for his position, irrespective of weight. Stroke should not only be a good timist but a good general ; as regards weight, in a crew averaging 12 stone the nearer he is to 11 stone the better. Seven is the accelerator of the crew ; he is Stroke's Stroke and he combines the two sides and should be the best man in the crew both as oarsman and general ; his best weight is 11 st. 7. Six should be the next most lively oar to back up stroke well, and should weigh, say, 12 st. 7. Five gets more into the plugger type and should be 13 st. Four the same—13 st. Three should be 12 st. 7 and can be the slowest man in the crew. Two should be more delicate in touch than three, four, or five, and should be about 11 st. 7. Bow should be a good figure-head of 11 st. ; he should have a very delicate touch—any heavy action will pull the boat's head down and destroy the run of the boat.

Every man in the crew should always back up the man in front of him, taking the weight off him as much as possible. All should always be ready for a quicken, and they should then make especially sure they back up the man in front ; it should not be left to stroke to work up a spurt alone. I found I could do it much better from seven and better from five by getting

six to row his hardest with me and as we did so to yell to the crew. The Jesus men told me that in their '89 crew that won the Grand, bow began the spurts and it worked down the boat. So we get another anomaly in a perfect boat—bow being the stroke.

An eight runs extraordinarily differently at each thwart. At stroke she is running away solid and true ; at seven she is slipping away very fast ; at six she is much more solid but is running away ; at five she is again more solid ; at four she is still more solid, but here she feels to be running on to one ; at three the run is slowest, and is where the dullest plugger can do himself most justice ; two is more like stroke with the boat running on to one instead of away, and bow is similarly more like seven.

The run of a boat varies at every stroke according to the way the last stroke was rowed, according to whether the boat is rolling or not, and according to the liveliness of the water, which varies with the depth of the water, and whether the boat is going with or against the stream or tide, and whether she is turning round a corner or not, etc. etc. All these variations set a different keynote, and stroke and crew must vary accordingly. The subjective mind is feeling for the keynote unconsciously, and a coach should bear that in mind, because calling out to correct a body-fault is apt to destroy the rhythm.

Cox.

Cox is too often overlooked. He is almost the most important man in the boat, for the cox



THAMES WYFOLD FOUR, 1923.

will be with the crew when the coach drops behind ; the cox will see them through the race and take up the task of vocal encouragement in the language of the coach ; and the cox must also be the voice of the stroke and express his messages to the crew on the instant that he reads the thought upon stroke's face. Furthermore, the cox has to discharge the independent responsibility of steering the boat and choosing the course with quick decision and generalship.

How to put the rudder on is important for a cox to learn by thinking about it and by practice. Steering
a boat.

A cox can make a tremendous difference to a crew by his steering, and by the way he sits in a boat, as well as by his calls to the crew. And a bad cox can do more harm than anyone in the boat. Short of running the boat into the bank, by sitting loose and heavy he will set up a drag, or by calling out in a toneless, dull sort of way he will spoil the rhythm and life of a boat.

The cox should fix himself in the boat so as to be as nearly immovable as possible, with his feet firmly pressed against the sides of the boat, his body always taut and braced, leaning well forward to take the strike at the beginning, and holding the rudder lines taut and the hands firm against the sides of the boat. A cox who is firmly wedged in the boat like this steadies the boat by the mere deadweight he offers against side-movements ; the boat cannot rock or quiver without moving his body. In fact the cox can do a lot to balance the boat by keeping

his body taut and well braced ; and he can do a lot of harm by sitting loosely and idly.

But where a cox does most harm to the balance of the boat is when he jerks the rudder and hauls the boat over suddenly. He should think of the boat and "sense" the turning movement. He should put the rudder on with his whole body from his feet to his hands ; that is to say, as he draws the rudder on smoothly and evenly he should be braced from fingertips to toe-tips, and should get the power from the pressure of his feet. He should put the rudder on with an elastic draw, in plenty of time, so that he can start lightly and keep increasing the pressure. If he warns the crew when coming to the corner, and starts the boat spinning, and then calls on the outside oars for the extra work required of them to help the boat round, he can keep the boat spinning with very little rudder. His art requires a sense of timing in the application of the rudder so as to get the boat on the spin, and save the back-watering which results from a heavily-dragging rudder.

Turning
corners.

There is a lot of difference between a boat running on to the oars and a boat running away from the oars. Oarsmen on the inside of a turn find it easy to grip the water, but have to row light so as to let the boat come round, keeping the boat level and the timing perfect meanwhile. The oarsmen on the outside of the turn find the boat spinning away from them just when they have to row longer and harder ; and they must be alert to the situation.

The most important thing of all is a cox's call, as the boat approaches the corner, and just before he puts the rudder on. He should call, "Steady on the corner." If the corner is turning with bow-side inside, he should call, "Hold her down, bow-side," as he puts the rudder on. When he wants the additional power from the other side, he should call, "Bring her round, stroke-side." He can abbreviate these calls to "Corner," "Down, bow-side," "Stroke-side"; but the crew should know what he means, and be very ready to respond. Then when the corner is finished he should call, "Now you are straight," or "Straight"; and all the crew should take the boat away as lively as possible up the straight.

The cox is an "understudy" to Coach; Calls to the crew. one of his duties is to see that the timing is correct. He should never call to individuals to correct the time. If he sees anyone late getting in, let him call out, "Watch the time"; then let everyone watch stroke's blade and try to row his own in with his and come steadily forward. Every oarsman should remember that the heaviest and hardest work for the man himself as well as for the man in front of him is when he is just a fraction late.

The cox's calls should be well timed and rhythmical; in fact, he should have a sense of athletics. It is a very good thing for him to scull or row when he can, for, besides needing muscles in good trim and a body well controlled,

steering requires the sense of touch which is the hall-mark of the athlete.

The cox must shout loudly enough for bow to hear him, otherwise he will break the mental continuity of the eight and have the stern-four plugging away before the bow-four have grasped the fact of a quickening-up. The coach ought to find time to coach the cox in this important detail of giving words of command. He should give the cox "communication-drill," as it is called in the Army, to test and exercise his voice. And there is another hint that might be borrowed from the Army : a sergeant will say that more than three-quarters of the smartness of drill is due to his word of command ; he lifts the rifles on to the men's shoulders with the emphasis of his voice. So also the cox can do much for a crew by bringing out his words with an alertness which itself suggests life, control, discipline, and enthusiasm.

**Stopping
and starting
the crew.**

The coach should also explain to the cox the timing of the calls. "Easy all" should be "Eeeeeee syall," a long "e," starting smartly as the blades strike the water, prolonged till the blades are starting to turn, then "Syall" in one syllable, ending on the finish of the stroke. The "e" should be sharp like the catch at the beginning, and held on elastically like the draw through the stroke ; and the "Syall" should be flicked out firmly, like the finish. When starting the crew, "Get ready" should be given loud and sharp, and the crew should respond smartly, stowing away their sweaters and scarves. "Are



BLADE JUST SQUARED, WEIGHT STILL ON SEAT.

Note wrists and shoulders and firm controlling hold of inside hand. Holding oar firm and square against thole.

you ready?" is the next call; and if anyone isn't ready he should call out "No" (to which the coach may reply with sharply pointed comment). Then "Come forward," when all the crew should come forward with a perfectly timed swing, all done in time with stroke. The blades should be lying flat on the water, and the crew, braced, all in perfect control, ready to row at the next call, "Row." These are the customary calls, but a smarter drill would get the crew away with the one word "Together," when all would go off with stroke.

When starting the boat it is best to start as if racing, for four strokes, rowing the first stroke very short and hard, the next stroke longer, the next still longer, and the next longer again. In the early stages these strokes will not be at racing pace, but after a week or so they should become a "rowing-start." At the fourth stroke the cox should call "Paddle." The crew then shade down from the row to the paddle in three strokes, making each a little less in the drive, a little less in the swing, and a little slower.

Training a crew, from the physiological point **Training.** of view, is only a matter of getting a crew into the best state of health to do hard work. The actual period of intensive work need only be a very short time, say between two and three weeks, during which the crew should observe rules as to stopping smoking, keeping regular hours, and being careful about diet. Even then, the dieting restriction should not be too irksome: let them eat and drink what they want, within reason.

Exercise out
of the boat.

For an ordinary day's work, I would suggest getting up at seven and taking a stroll for half an hour and a sprint of about fifty yards. Run your fastest without breathing until forced to breathe. This clears the cobwebs out of the lungs. If a crew is getting plenty of work in the boat, I don't believe in any other hard or fast work ; but plenty of quiet walking is a good thing. I have been told that the Japanese say breathing exercises are all that is necessary to keep one fit ; and one should get plenty of fast bits of rowing to open one's pipes thoroughly every day, besides the morning sprint. During my last two 'Varsity trainings we used to walk for half an hour before breakfast ; then after breakfast we would walk down to the river (a mile and a half) ; then back to our quarters to get our rowing things ; then down to the river for our row ; back to lunch ; down to the river for our afternoon row ; back to dinner ; down to the Thames Rowing Club for a chat ; and then back to bed,—in all about fifteen miles. But if a crew were ordered to walk fifteen miles a day by the trainer, they would go stale quickly, as they would feel it an irksome toil.

I have always been a believer in long work, especially early in training. I have heard a trainer say it is the work a horse does in the winter that wins the Melbourne Cup. I expect the same applies to the English Derby. The long, slow work a crew does in the early stages hardens the men, and fits them for the faster work at the finish of training. The

stale period that some crews experience arises from starting the fast work when too fat, owing to having been kept under a glass case too much in the earlier stages. Getting stale.

Training a crew at Henley, one has to be very careful, especially if one gets a hot spell. The Thames Valley is very relaxing at that time of the year, and the hot, stuffy nights are very trying. Then the fast work twice a day and the spare time occupied with watching the other crews practise keeps the mind too much at a tension and is apt to react in staleness. So also, mental staleness will set up if the work is too monotonous and dull.

A crew will learn to row by racing, but it cannot learn to race by rowing. The more crews can be galloped together in practice the better, but the coach must be able to make the handicap so that the finish is very level, and if either must be favoured, it is a good thing to remember what a horse-trainer once told me : Always flatter the colt. Should the handicap be wrong, pull the top weight out just before he gets the lead. Racing practice.

To "keep quite cool when racing" is an old maxim. Most oarsmen are apt to get into a state of nervous excitement before a boat-race. Up to a point this is a good thing, but it can be overdone ; I have known a man get into his seat facing the bows when getting into a boat to race ; and I have known a man rowing bow-side in the Cambridge Eight take a stroke-side oar and actually start paddling to the start "Needle" before the race.

with it. This excitement is commonly called "needle" in rowing parlance. It is really only a nerve stimulant to brace up the muscular system. The harder a race the oarsman anticipates, the greater the needle. But, strangely enough, when the crew get to the post and are ready to start, the needle disappears entirely. Many who think that they do not get needle are not conversant with all the signs ; yawning is one, talking excitedly or becoming very silent are others. It is apt to be cumulative, and the more one races the more one gets a needle. Even the coach starting his crew in a bumping race is apt to get a bad needle. This year, 1925, at Henley, my club, Thames, were rowing my college, Jesus, in a heat of the Grand. I knew Thames would win, so of course I thought I had no needle. I bought a programme and went to post a letter. I posted the programme and pulled out the letter to see the time the race started.

The Race.

The crew need reminding that, when starting the race one does not want to try to do too much. Each man should just make sure of the first three or four strokes and get the boat away nicely. Trying to do too much is very apt to bring in rush and effort ; and one man doing this will spoil the whole crew. Let each man concentrate on being always ready for a spurt and be sure he strikes quicker and harder, even if shorter, when called upon. If he wins, remember the feelings of the crew he has beaten ; and if he loses, be glad he has done his best.

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